



Regional Plan

Water Resources South East

Draft Regional Plan Consultation Response document

August 2023

Draft Regional Plan Consultation Response Document – Water Resources South East

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1. Executive summary

- 1.1. Water Resources South East (WRSE) is an alliance of the six water companies which cover the South East of England - Affinity Water, Portsmouth Water, SES Water, Southern Water, South East Water and Thames Water.
- 1.2. In November 2022, WRSE published its Draft Water Resources Regional Plan (the draft regional plan) for a period of public consultation. The draft regional plan set out how WRSE planned to achieve a secure, resilient and sustainable supply of water for customers and other sectors, across a challenging range of potential futures.
- 1.3. The proposals in the regional plan seek to ensure that water is used in the most sustainable way in the years to come, providing the water needed as the population grows, whilst improving the environment and adapting to climate change. The range and scale of challenges facing the South East has led us to prepare an adaptive plan – one which identifies the investment needed regardless of what the future holds. The plan is able to adapt to a wide range of future scenarios, so we can manage uncertainty and invest appropriately in our region's water supplies so they remain resilient in the years to come.
- 1.4. The regional plan is also a best value plan – a plan that considers a range of factors alongside economic cost and seeks to achieve an outcome that increases the overall benefit to customers, the wider environment and society. It contains a mix of options, balancing ambitious reductions to leakage and water consumption with the need to invest in new sources of water. Some of these schemes will provide water to customers of multiple water companies through the development of a network of new transfers.
- 1.5. Consultation on the draft regional plan took place between November 2022 and February 2023. WRSE received 901 responses to the consultation, as summarised in the infographic on the next page.

- 1.6. This document is the Consultation Response. It provides a summary of the consultation responses, highlighting themes and issues raised in the responses received and providing WRSE's position in response to them. This document draws out the main themes and issues in responses, including those of the regulators, other organisations and individuals. It does not however seek to identify each individual respondent, nor each individual comment made. However, the individual detailed comments and information received have been taken into account and used by WRSE in its continuing work on the preparation of the regional plan.
- 1.7. Comments received on the draft regional plan were supportive of the adaptive planning approach being undertaken, for preparing the plan on a best value and not least cost basis, and supported the proposals for significant leakage and water efficiency measures as well as greater protection for the environment through abstraction reductions.
- 1.8. There were challenges in the responses to population and environmental data and assumptions underpinning the scale of water needed in the future. Significantly, over 80% of the responses focused comments on specific water resources options identified for development, such as large new reservoirs, strategic water transfers, and water recycling schemes. Concerns were expressed about the need for the schemes selected, the cost and timescales for delivery, and the environmental impacts associated with their development.
- 1.9. WRSE has carefully considered the consultation responses it has received. The feedback has informed ongoing work undertaken by WRSE and our member companies to revise and update the draft regional plan. This work has resulted in a revised draft regional plan being prepared, and published alongside this Consultation Response document in August 2023. Both documents are available in [WRSE's document library](#).

About our consultation



We received
over **900**
reponses



We responded to
over **100** questions
throughout the consultation



Our films were watched
over **520** times



Our documents were
downloaded more than
3,300 times



236 people
joined our two
webinars



Our consultation
webpage was
visited more
than **5,200** times

How Stakeholders Responded

Other written
responses **608**



Online or questionnaire
responses **293**



Who responded



28 local government
organisations



9 businesses or
trade associations



18 environmental
organisations



4 governing bodies /
regulators



10 community
and campaign groups



7 parish councils

- 1.10. Following consultation on the draft regional plan, the regional investment and best value plan modelling has been updated, including updating data and information that has been fed into the modelling in relation to:
- updating population and growth forecasts to reflect updated data not available previously
 - updating demand forecasts to reflect the above, and updating the base year for forecasts
 - updating data and information on individual options, including option timing, costs and best value metrics, and option availability
 - updating company commitments to leakage and PCC targets in light of Government policy expectations, including in the Government's [Environmental Improvement Plan](#)
 - other data updates to reflect new data availability
- 1.11. Alongside this work, WRSE and our member companies have updated the environmental assessments of the options in the plan, including in combination assessments of the options, taking account of consultation feedback from environmental regulators and other stakeholders.
- 1.12. As a consequence of all of the above, the proposals set out in the draft regional plan have changed, and WRSE is publishing a revised draft regional plan which sets out its detailed updated proposals. This consultation response document highlights and signpost the main changes that are now being proposed, and the revised draft regional plan sets these out in detail.
- 1.13. The main changes made to the water resources proposals set out in the regional plan are:
- Changing the proposed leakage reduction and water efficiency proposals in the plan, to bring them into alignment with the Government's requirements set out in the Environmental Improvement Plan, including meeting interim reduction targets. This has the effect of bringing forward some of the leakage reduction and water efficiency measures earlier in the plan period
- Update of the water resources options selected in the regional plan, including updates to options selected, phasing and timing for completion of the options. The full details of the options selected are set out in the revised draft regional plan document, with the most significant changes from the draft regional plan being:
 - The SESRO reservoir proposal is selected at a size of 150 million cubic metres of storage (Mm³) in the revised draft regional plan, larger than the 100 Mm³ size selected in the draft regional plan
 - The Grand Union Canal (GUC) transfer proposal is selected as a single 100 MI/d (mega litres a day) option in the revised draft plan, bringing forward the second phase from the proposals in the draft regional plan
 - The Severn Thames Transfer proposal is not selected in the investment modelling in the revised draft regional plan, but will continue to be advanced through technical and other assessments as there is a risk that the scheme may still need to be delivered under alternative adaptive plans to our current proposals
 - The revised draft regional plan selected an increased number of catchment management options compared to the draft regional plan.
 - Changes to various individual scheme delivery dates, and changes to the details of schemes selected, as set out in detail in the revised draft regional plan document.
- 1.14. The revised draft regional plan is being published for information, and not for a further period of public consultation. The publication of the revised draft regional plan is to support the ongoing and separate statutory processes being undertaken by WRSE's member companies to prepare their individual Water Resources Management Plans (WRMPs).
- 1.15. Following consultation on draft WRMPs in late 2022 and early 2023, the companies have themselves prepared Statements of Response, identifying the comments received on their statutory draft plans and how the WRMPs have changed as a result. Those Statements of Response and revised drafts

of the WRMPs have also now been published by five of the six companies. Details are on their respective websites.

- 1.16. Affinity Water, Portsmouth Water, SES Water, South East Water and Thames Water have submitted their statutory revised draft WRMPs and their Statement of Responses to Government and will now wait for it to indicate whether they can finalise their plans, whether further changes need to be made, or whether a hearing or inquiry into the WRMP is required before finalisation. The five companies expect to hear from the Government before the end of 2023.
- 1.17. The sixth company, Southern Water, has published its Statement of Response on its website and submitted its revised draft WRMP to regulators. Southern Water will publish its revised draft WRMP when given permission to undertake further consultation on its WRMP by the Secretary of State. Southern Water would then prepare a further Statement of Response document and may need to further update its revised draft WRMP before submitting it to Government to request permission to publish its final plan.
- 1.18. WRSE will wait to learn the Government's feedback on the individual company revised draft WRMPs before finalising the regional plan. This will enable it to ensure that the regional plan and company WRMPs are aligned on completion of this cycle of planning. WRSE is also working closely with the other regional water resources groups to ensure alignment between regional plans.
- 1.19. Whilst the revised draft regional plan that has been published alongside this consultation response document represents the current regional plan proposals, WRSE will continue to liaise with its member companies during Autumn 2023 as they look to finalise and publish their WRMPs, and engage with the regulators to ensure that our final regional plan is published as soon as possible. Whether the final regional plan will need to take account of further changes will not be known until the WRMPs for the companies are finalised.

- 1.20. Where individual company WRMPs are not yet finalised when our final plan is published, we will ensure our plan clearly identifies how it can and will adapt to any changes to remaining WRMPs as they are finalised themselves. WRSE currently anticipates that the earliest the final regional plan will be published is early to mid 2024.

- 1.21. WRSE will ensure that it regularly updates on progress on [its website](#).

2. Introduction and purpose

WRSE and the regional plan process

- 2.1. WRSE is preparing a regional water resources plan for the South East of England. WRSE is an alliance of the six water companies supplying London and the South East - Affinity Water, Portsmouth Water, SES Water, Southern Water, South East Water and Thames Water – who have come together to jointly prepare the regional plan.
- 2.2. Production of the plan is WRSE's central activity, with the aim to secure water supply for future generations through a collaborative, regional approach.
- 2.3. The regional plan is being developed in partnership with regulators, water companies, water users in other sectors, environmental stakeholders and customers. It takes a regional perspective and includes a mix of options that together provide the water needed for the region's people and places, alongside a range of wider benefits to society and the environment.
- 2.4. The key steps in the regional plan process completed to date are:
 - Engagement to inform the development of the draft regional plan – 2021/2022
 - Emerging regional plan consultation - January to March 2022.
 - Consultation Response Document published – May 2022
 - Draft regional plan consultation – November 2022 to February 2023
 - Consultation Response Document (this document) and revised draft regional plan published – August 2023
- 2.5. Further details are available on [our website](#). Information on the next steps in the regional plan process is set out in Section 27 of this document.

The draft regional plan consultation

- 2.6. As the regional plan is currently a non-statutory plan, there is no statutory requirement for consultation, although Government guidance in the form of the [Water Resources Planning Guideline](#) (the WRPG) and the Environment Agency's [National Framework for Water Resources](#) both state that consultation should be undertaken.
- 2.7. WRSE published its draft regional plan for consultation between November 2022 and February 2023, in parallel with the publication of draft Water Resources Management Plans by five of the South East water companies. Thames Water published its draft plan for public consultation in December 2022. Similar consultation processes were followed in other regions. Further details of the consultation undertaken are set out in Section 3 of this document.
- 2.8. The draft regional plan identified the future water resources challenges facing the South East of England and explained the technical work completed to assess the scale of future water need for the region over the period to 2075. The draft regional plan set out in detail the proposed demand management and new water resource options that WRSE has chosen to ensure that over the short, medium and long term customer water supplies are secured and the levels of planned environmental improvements through reduced abstraction are delivered.
- 2.9. WRSE sought feedback on its approach, the assumptions underpinning its work, and on the specific options and proposals set out in the draft regional plan.

Purpose of this Consultation Response document

- 2.10. This Consultation Response document summarises the engagement undertaken on the draft regional plan, and the comments and feedback received. It also provides WRSE's consideration of, and response to, the consultation responses and engagement outcomes.

- 2.11. The consultation responses and wider engagement feedback we have received on the draft regional plan helps us to identify levels of support for the approach we are planning to take, and any key issues and concerns relating to the draft regional plan.
- 2.12. This Consultation Response document groups responses together into themes, and sets out WRSE's responses to the issues raised. It identifies, in light of the comments and feedback we have received, how WRSE has updated the draft regional plan as a result. It also explains areas of feedback where WRSE is not proposing to change the draft regional plan in response.
- 2.13. Where any updated data and information has become available since the publication of the draft regional plan, or where Government policy and guidance has changed, this is also explained. This includes updates on other technical work, modelling and regional co-operation and reconciliation that has taken place since the draft regional plan was published.
- 2.14. A revised draft regional plan is being published alongside this Consultation Response document. The revised draft regional plan is being published for information, and not for a further period of public consultation, to support the ongoing and separate statutory processes being undertaken by WRSE's member companies to prepare their individual Water Resources Management Plans (WRMPs).
- 2.15. Following consultation on draft WRMPs in late 2022 and early 2023, the companies have themselves prepared Statements of Response, identifying the comments received on their draft plans and how the WRMPs have changed as a result. Those Statements of Response and revised drafts of the WRMPs are being published by the six companies, five alongside this regional plan, with the sixth (Southern Water) seeking permission from Government to publish its revised draft plan for consultation. A summary of the next steps is set out in Section 27 of this document. Details are on the respective company websites.
- 2.16. The Consultation Response is being published on [WRSE's website](#). A notification of its publication will be sent to all those who responded to the draft regional plan consultation and who indicated that they wish to be kept informed of our progress. Structure of this Consultation Response document
- 2.17. Following this introduction, the document is structured as follows:
- **Section 3** – explains how the consultation was undertaken and the level of responses received.
 - **Section 4** – provides an overview of the questionnaire responses received, summarising themes and issues raised in responses.
 - **Section 5** – provides an overview of the other emailed and postal responses received, summarising themes and issues raised in responses
 - **Section 6** – explains other feedback relating to the draft regional plan, including outcomes of customer research and comments on draft WRMPs
- 2.18. The remaining sections of the document then group together the responses into different themes, providing WRSE's response to the issues raised, and explains how WRSE will change the draft regional plan in response.
- 2.19. **Sections 7 to 13** cover comments on the scale of challenge being faced, and how WRSE prepared its draft regional plan:
- **Section 7** – population and demand forecast
 - **Section 8** – climate change
 - **Section 9** – drought resilience
 - **Section 10** – environmental forecast and environmental ambition
 - **Section 11** – meeting the needs of other sectors
 - **Section 12** – WRSE's long-term adaptive planning approach as a response to the challenge
 - **Section 13** – WRSE's best value planning and decision making
- 2.20. **Sections 14 to 25** then cover comments on the proposals in the plan, and how they have been assessed:
- **Section 14** – balance between demand management and new supplies
 - **Section 15** – leakage reduction proposals

- **Section 16** – water efficiency proposals
- **Section 17** – reliance on drought options
- **Section 18** – South East Strategic Reservoir Option (SESRO) proposal
- **Section 19** – Hampshire Water Transfer and Water Recycling Project
- **Section 20** – Severn Thames Transfer proposal
- **Section 21** – Other water transfer proposals
- **Section 22** – Other water supply proposals
- **Section 23** – Catchment management and nature based solution proposals
- **Section 24** – Environmental assessments and benefits
- **Section 25** – Other issues raised

2.21. Finally, **Section 26** summarises the key changes to the draft plan, and **Section 27** outlines the next steps with the regional plan preparation.

3. Summary of draft regional plan consultation

How the consultation was undertaken

- 3.1. The draft regional plan was published on 14 November 2022 for a 14-week period of engagement and public consultation, ending on 20 February 2023.
- 3.2. WRSE carried out direct and indirect awareness raising ahead of the consultation, including publicising the launch date in the WRSE quarterly newsletter, direct emails to stakeholders, pre-briefings to stakeholder organisations and social media updates trailing the launch.
- 3.3. WRSE created an online consultation hub that acted as the central platform for all content relating to the consultation. This included:
 - [Draft regional plan consultation document](#), including an [Accessible version](#) and a printer friendly version
 - Two technical annexes – [One](#) and [Two](#)
 - [A suite of more than 40 supporting background documents and technical information](#) were also made available through a dedicated Supporting documents webpage and the online WRSE Library.
- 3.4. A [series of films](#) that simplified the plan to make it more accessible to a wider audience were also produced. They were available online and were promoted on social media. An online survey was created to help people respond to the consultation and a Q&A function was made available for people to ask questions throughout the consultation period, with answers posted in response.
- 3.5. On the day the consultation launched, WRSE emailed more than 2,100 individuals and organisations (stakeholders who had signed up for updates

via the WRSE main website or consultation site) providing them with the consultation document and details of the technical appendices and reports. A press release was sent to local, regional and national media outlets and details of the consultation were shared on social media. The launch of the consultation was co-ordinated with the six WRSE water companies, with most launching their WRMP consultations on the same day.

- 3.6. There was additional awareness raising / publicity work by the six WRSE member water companies, as part of their separate statutory consultations on each of their draft Water Resources Management Plans (dWRMPs). These activities signposted the draft regional plan consultation, and explained the links between the draft regional plan and the company's dWRMPs, whilst noting the consultations were separate processes.
- 3.7. A launch event for the draft regional plan was held at the Houses of Parliament in London on 16 November 2022. More than 60 stakeholders, attended including MPs, regulators, environmental groups, local authorities, trade associations for large water users and other water resources regions. South East MPs and peers from the House of Lords also attended with Chairs of parliamentary select committees and All Party Parliamentary Groups (APPGs).
- 3.8. WRSE organised two online webinars relating to the draft regional plan, which were promoted directly to all stakeholders on WRSE's contact database and via social media:
 - 17 November 2022 – [National launch webinar for the five draft regional water resources plans](#), hosted by the National Water Resources Framework Senior Steering Group
 - 22 November 2022 – [Launch webinar for the WRSE draft regional plan](#).
- 3.9. The slides from the webinars, together with a recording of the presentation and discussions, were published online and an email sent to people who registered to attend and the stakeholders registered on WRSE's contact database.

- 3.10. WRSE also took part in webinars that were held by WRSE member companies to promote their draft Water Resources Management Plans. This included:
- [Affinity Water's online water resources forum](#) on 28 November 2022
 - [A joint stakeholder webinar on 29 November 2022 by SES Water, South East Water and Southern Water](#) (focused on East Sussex, Kent and Surrey)
 - [A further stakeholder webinar, hosted by Portsmouth Water and Southern Water](#) for stakeholders in West Sussex, Hampshire and the Isle of Wight.
 - Thames Water's in person water resources forum in London on 31 January 2023
- 3.11. The WRSE Chair and Organisational Director carried out one –to-one briefings with a range of stakeholder groups including
- 3.12. An online interactive Q and A session was held by WRSE on 2 February 2023, where questions were submitted and responded to on the day. The purpose of this was to provide stakeholders with an opportunity to ask any outstanding question before the consultation closed.
- 3.13. WRSE responded to requests for information and clarification that it received during the consultation period, and spoke directly to a number of organisations and individuals who made contact through the website.

Levels of engagement achieved

- 3.14. The following levels of engagement were achieved during the consultation period:

Formal consultation responses

- 3.15. 901 written consultation responses were received:
- 293 questionnaire responses (either completed online or emailed)
 - 608 other emailed and postal responses

- 3.16. Responses were received from over 100 different organisations, including water sector economic and environmental regulators, local government (including counties, districts, and parish councils and individual councillors), environmental, business and consumer groups, residents and campaigning organisations.
- 3.17. A list of the organisations that provided a named response is provided at Appendix 1 to this Consultation Response document.
- 3.18. This document does not seek to identify each individual respondent, nor each individual comment made.
- 3.19. The comments and information received have been used by WRSE in its continuing work on the preparation of the regional plan. A revised draft regional plan has been published alongside this Consultation Response document.

Website engagement

- 3.20. The WRSE consultation website was used extensively during the consultation period, between 14 November 2022 and 20 February 2023. The site had more than 5,200 visits, with a high of over 220 visitors in one day.
- 3.21. The most popular pages were:
- [Our draft best value regional plan](#) - 1,265 visits
 - [Our consultation](#) - 1,252 visits
 - [Supporting documents](#) - 392 visits
 - [Consultation Q&A session](#) - 323 visits.
- 3.22. Around 215 new people registered to use the site during the consultation, in addition to the 1,100 who had signed up previously.
- 3.23. The draft regional plan consultation document was downloaded over 1,750 times from the consultation webpages, the presentation slides from the 22 November 2022 WRSE webinar 340 times, and the breakdown of responses to questions submitted during the live online Q&A 256 times.

- 3.24. The consultation videos were watched more than 520 times directly via the consultation site and the WRSE Vimeo channel (with links in place from the consultation site to the Vimeo channel). The most popular film was on [Adaptive planning](#), with 75 views.

Webinars and online Q and A session

- 3.25. WRSE had 236 people attend across the two online consultation webinars it organised, with a wide range of questions raised and responded to during the sessions.
- 3.26. During the live online Q and A session on 2 February 2023, a total of 28 questions were asked and responded to.

Media coverage

- 3.27. There was coverage of the consultation launch on 14 November 2023, primarily on regional, local and trade media outlets. WRSE provided additional briefings and interviews on BBC South East TV, BBC South TV, BBC Radio Oxford, BBC Radio Sussex and Surrey, BBC Radio Berkshire. WRSE continued to respond to media enquiries during the consultation period.

Other enquiries

- 3.28. WRSE received a number of requests for clarification or additional information during the consultation period, ranging from requests for help to find a specific piece of information, to a problem accessing or using the consultation webpages or online questionnaire, as well as more formal requests for information that had not previously been published as part of the consultation process.
- 3.29. WRSE liaised closely with the six member water companies and sought to ensure responses to all requests for assistance and information were made in a timely manner. Some of the requests involved detailed technical issues which took a longer period to respond to.

Non-WRSE engagement and comments

- 3.30. This Consultation Response document focuses on the engagement undertaken by WRSE and the responses it received during the consultation period.
- 3.31. The six water companies carried out separate statutory consultations on their individual draft Water Resources Management Plans (dWRMPs) at around the same time as WRSE's draft regional plan consultation. The companies' consultation activity referenced WRSE's draft regional plan and the associated WRSE consultation materials, to provide the regional and national context for the individual dWRMPs.
- 3.32. This company specific engagement and detailed WRMP related responses are not incorporated into this WRSE Consultation Response document. WRSE has included a high level commentary on the similarities or differences between the comments received by WRSE and by companies in Section 6 of this consultation response document.

4. Overview of questionnaire responses

- 4.1. WRSE asked 4 consultation questions on the draft regional plan. These questions were set out within the draft regional plan consultation document, and also formed the basis for an online questionnaire which respondents could use to provide comments and feedback to WRSE.
- 4.2. As noted in Section 3 of this document, a total of 293 questionnaire responses were received, either through the online system or as separate emailed or postal responses. The majority of the questionnaire responses were submitted by individuals, but 44 of the questionnaires were submitted by or on behalf of organisations including Local Authorities, Parish Councils, MPs, campaigning organisations, consumer groups, environmental bodies and business and other organisations. A full list of the organisational responses is provided in Appendix 1 to this Consultation Response document.
- 4.3. Of the 293 questionnaires received, reviewing the detailed comments identified that approximately 220 of them were focused on either opposition to, or support for, a single option in the draft regional plan. These were principally from individuals or organisations opposed to the South East Strategic Reservoir (SESRO) proposal and/or supporting the Severn Thames Transfer (STT) transfer proposal (or the STT transfer proposal canal option). Smaller numbers commented on other options including support for Grand Union Canal (GUC) transfer proposal, or opposition to the Hampshire Water Transfer and Water Recycling Project.
- 4.4. This section of the Consultation Response document summarises the responses received for each of the questions, identifying themes and issues raised in the questionnaire responses. WRSE's response to the themes and issues raised in the questionnaires is then set out in subsequent Sections 7 to 25 of this Consultation Response document.

Question 1 – Scale of the challenge and adaptive planning approach

Context

- 4.5. The draft regional plan set out the scale of the water resources challenge facing the South East region, and described the adaptive planning that WRSE is adopting to ensure that the regional plan is capable of adapting to the range of different potential futures that may emerge in the future. Question 1 of the online questionnaire sought responses to the following multiple choice question:

Our draft regional plan looks 50 years ahead. It plans to increase resilience to drought and address the potential shortfall in water as a result of climate change, population growth and increased protection of the environment, by taking an adaptive planning approach. Do you think the draft regional plan addresses the scale of the challenge we face in the future through our adaptive planning approach?

Responses to question 1

- 4.6. There were 293 responses received to the question, as summarised below.

Response	Number	Percentage
Strongly agree	7	2.4%
Agree	31	10.6%
Neither agree or disagree	20	6.8%
Disagree	39	13.3%
Strongly disagree	190	64.8%
No choice selected	6	2%
	293	

Summary of issues raised in response to question 1

4.7. Of the responses received, 274 of the respondents provided additional comments in support of their choice of response to the multiple choice question. The responses have been reviewed and analysed, and are grouped in the sections below by multiple choice response.

4.8. Looking at the levels of response to question 1 as a whole:

- 183 (62%) of the responses related to the selection of the SESRO Reservoir proposal as an option in the draft regional plan, either commenting on the need for the SESRO Reservoir proposal, the reasons for selecting it as part of the draft regional plan, indicating a preference for other options (including the Severn Thames Transfer (STT) proposal) or identifying concerns about construction and operational impacts.
- 24 of the respondents separately commented on the level of need for water resources identified in the draft regional plan.
- 10 respondents commented on demand management and water efficiency measures, including speed of delivery.
- There were also comments in relation to other options, including the Hampshire Water Transfer and Water Recycling Project (4 responses), support for the STT transfer proposal canal option (3 responses), desalination (3 responses), and individual comments on other option types.

Of those strongly agreeing or agreeing to question 1

4.9. 32 of the 38 respondents who indicated that they strongly agreed or agreed that the draft regional plan addressed the scale of the challenge through its adaptive planning approach provided additional comments.

4.10. Respondents supported WRSE's collaborative approach to the preparation of the draft regional plan, both within the South East region and with other regions, and the work undertaken by WRSE with other sectors. Those supporting the approach commented that the scale of the challenge was clearly set out in the draft regional plan, including the range of potential futures that are being faced, and the uncertainties that WRSE is seeking to accommodate and respond to through its adaptive planning. Some

respondents were surprised at the relative scale of the different drivers of future water resources need, noting that population growth was expected, but that climate change was less of a factor than was expected.

4.11. Respondents recognised the significant scale of the challenge being faced, and recognised that this required action not just by the water companies but by customers and other sectors. The need for ongoing monitoring and review of the level of need and progress with demand management and new resource development was also highlighted, with flexibility to adapt as circumstances change over time. The potential for population forecasts to change over time was specifically highlighted. Support was expressed for the level of abstraction reduction to be delivered, and the environmental benefits that this would deliver, although some respondents wanted greater action sooner, others had concerns that the environmental impacts of new resource developments could be greater than the benefits from abstraction reduction. Respondents indicated support for individual options, including the STT transfer proposal canal option.

Of those neither agreeing or disagreeing to question 1

4.12. 15 of the 20 respondents who indicated that they neither agreed nor disagreed that the draft regional plan addressed the scale of the challenge through its adaptive planning approach provided additional comments.

4.13. Some respondents questioned why if the scale of need is so great wasn't WRSE selecting new water resource options capable of being developed quicker, and/or promoting even further demand management measures such as faster and greater leakage reduction and water efficiency measures. Others highlighted the considerable variability in the forecast future challenges being faced and suggested that there is too much uncertainty to robustly plan over such a long period of time. Other respondents questioned why such a longer period (10 years) is needed for investigations and abstraction reductions to be agreed, when there is evidence of specific impacts in catchments already.

- 4.14. Concerns were expressed about the reliance on desalination options in the draft regional plan, given the environmental impacts associated with them, and whether the abstraction reduction environmental benefits justify desalination solutions. Respondents questioned the reliance on the SESRO Reservoir proposal as part of the draft regional plan, and the selection of the Hampshire Water Transfer and Water Recycling Project, and the need for the options to be selected. Others suggested that transfer options would be more sustainable.

Of those disagreeing or strongly disagreeing to question 1

- 4.15. 223 of the 229 respondents who disagreed or strongly disagreed that the draft regional plan addressed the scale of the challenge through its adaptive planning approach provided additional comments.
- 4.16. The majority of the respondents providing additional comments (179 respondents) commented in opposition to the selection of the SESRO Reservoir proposal as part of the regional plan. Many of the respondents repeated the same issues in their responses, some following suggestions provided by the Group Against Reservoir Development (GARD). The issues raised in responses on the SESRO Reservoir proposal included concerns that WRSE had not adequately responded to comments made in opposition to the SESRO Reservoir proposal in previous consultations. Concerns were expressed that population projections adopted by WRSE were too high (and thus the need for water resources was too high) and failed to address a perception that the UK's population would start falling in 10-15 years time. They also stated that the draft regional plan was not adaptive given that the SESRO Reservoir proposal was advocated in the early part of the plan and so the plan would be fixed at that point.
- 4.17. Respondents opposed to the SESRO Reservoir proposal indicated that shorter term increases in supply should be prioritised, including water transfers, whilst longer term needs could be better defined. Plans for water recycling and further leakage reduction were considered to be inadequate, given the relative leakage levels for Thames Water compared to other water companies. The draft regional plan was also felt to not consider the full

effects of climate change, including that wetter periods would recharge aquifers and existing storage. In relation to the detail of the SESRO Reservoir proposal itself, respondents identified concerns that the environmental impacts during construction and operation of the reservoir, including flood risk, dam failure, landscape and visual impacts, construction impacts, and changed weather patterns amongst other issues had failed to be addressed in WRSE's work.

- 4.18. Other respondents disagreeing or strongly disagreeing with the question felt that the need for additional water resources was overstated in the draft regional plan, including in relation to population growth, and that with more demand management not all of the new resource options would be required. Others considered that demand management and water transfers should be prioritised first, ahead of new resource developments, with support expressed for the levels of planned savings from demand management but also suggestions that more could be done – achieving the Government's proposed national target of water consumption on average of 110 litres per person per day (l/h/d) by 2050 or a higher or earlier target.
- 4.19. However some concerns were expressed about what the implications would be if the planned demand management savings were not achieved. Other respondents supported planned abstraction reduction but felt 2050 was too late for this to be achieved, and that faster progress was needed. Comments were made in support of greater use of water recycling, although concerns were expressed about the environmental impacts of the Hampshire Water Transfer and Water Recycling Project, and wider storm and other discharges to the environment. Concerns were also expressed about desalination and the lack of environmental co-benefits and high environmental impacts arising from this option type. There was support expressed for the STT transfer proposal canal option.

Of those not indicating a multiple choice response to question 1

- 4.20. 2 of the 6 respondents who did not indicate a multiple choice response provided additional comments.

- 4.21. The respondents indicated support for more ambition with respect to water efficiency measures, and for ensuring that the future needs of the environment are met first and then solutions found to meet water resources needs, ensuring that new resource options meet environment objectives and deliver natural capital and biodiversity net gain.

Question 2 - working with other sectors

Context

- 4.22. The draft regional plan explained the work WRSE had undertaken to engage and work with other sectors to determine their future water resource needs.
- 4.23. Question 2 of the online questionnaire sought responses to the following question:

Our draft regional plan has considered the needs of other sectors and how their demand for water could be met in the future. Do you support us continuing to work with other sectors so our regional plan fully embeds their future needs and includes appropriately-funded solutions to meet them?

Responses to question 2

- 4.24. There were 293 responses received to the question, as summarised below.

Response	Number	Percentage
Strongly agree	147	50.2%
Agree	64	21.8%
Neither agree or disagree	30	10.2%
Disagree	16	5.5%
Strongly disagree	29	9.9%
No choice selected	7	2.4%
	293	

Summary of issues raised in responses to question 2

- 4.25. Of the responses received, 245 of the respondents provided additional comments in support of their choice of response to the multiple choice question. The responses have been reviewed and analysed, and are grouped in the sections below by multiple choice response.
- 4.26. Looking at the levels of response to Q2 as a whole:
- 155 (63%) of the responses repeated the same issues in their responses as to question 1, targeted towards opposition to the SESRO Reservoir proposal, some following suggestions provided by the Group Against Reservoir Development including that WRSE needed to include other stakeholders at board level, and concerns that the draft regional plan was designed to benefit water company shareholders rather than customers. Others raised concern about the impacts of the SESRO Reservoir proposal on the local environment and communities, and questioned why impacts are focused on Oxfordshire when the water is to be transferred to London and Hampshire.
 - 38 of the respondents expressed support for the collaborative work being undertaken with other sectors, commenting on issues relating to definition of their needs and delivering solutions. A further 23 respondents commented on challenges arising from this work, including the need to ensure that environmental and customers needs were also considered, with some questioning why other sectors weren't meeting their own needs.
 - There were also comments in relation to other options, including the Hampshire Water Transfer and Water Recycling Project, support for STT transfer proposal canal option and water transfers generally.
 - Some respondents found the question difficult to answer or thought it wasn't clear.

Of those strongly agreeing or agreeing to question 2

- 4.27. 188 of the 211 respondents who indicated that they strongly agreed or agreed with WRSE's work with other sectors provided additional comments.

- 4.28. Although indicating support for WRSE's work with other sectors, the majority of the responses were focused on opposition to the SESRO Reservoir proposal. Many of the responses relating to the SESRO Reservoir proposal followed suggestions provided by the Group Against Reservoir Development including that WRSE needed to include other stakeholders at board level, and concerns that the draft regional plan was designed to benefit water company shareholders rather than customers. Concerns were expressed that WRSE and the water companies are not listening to the consultation responses being made in relation to the SESRO Reservoir proposal, and that greater stakeholder involvement in WRSE is needed as a result. Other respondents raised concern about the need for the SESRO Reservoir proposal and the impacts of the proposal on the local environment and communities, and questioned why water is to be transferred to London and Hampshire given the scale of impacts locally in Oxfordshire.
- 4.29. The next largest group of respondents were supportive of WRSE's work with other sectors, with respondents recognising the importance of engaging with other sectors to ensure a more complete picture of water resources need rather than focusing on public water supplies alone. Specific support was given for engagement with industrial sectors, power, paper and agricultural users. The challenges and uncertainties of forecasting the needs of a wide range of other sectors over the lifetime of the plan was identified as a concern, with the need for regular reviews to take place. A number of respondents suggested extending the joint working to also include Lead Local Flood Authorities (LLFAs) and other bodies also working in the water sector, and broadening out to partnerships working on catchment management and nature based solutions. The importance of customer views was also highlighted in some responses. The role of local planning authorities and the development industry in seeking to deliver water efficiency measures was also highlighted in some responses, including challenges being experienced in the Sussex North water resources zone currently in relation to water neutrality.
- 4.30. Other comments included opposition to the Hampshire Water Transfer and Water Recycling Project, support for water transfers and/or a national water grid, and increased leakage reduction. Some respondents considered the question to be hard to answer, or obvious to answer.
- Of those neither agreeing or disagreeing to question 2*
- 4.31. 18 of the 30 respondents who indicated that they neither agreed or disagreed with WRSE's work with other sectors provided additional comments.
- 4.32. Support was expressed for joint working with other sectors, but there was concern identified at the lack of catchment options in the draft regional plan and the relative lack of focus on abstraction reduction and environmental destination and environmental ambition¹ in the questions posed. Other respondents felt that the question wasn't clear.
- 4.33. Some respondents were concerned that other sectors needs will change over time and so there is a risk that infrastructure delivered to meet their needs now may not be required in the future. Others highlighted that water company customers don't want to pay through their bill for infrastructure to meet the needs of other sectors – they should fund this themselves. There was opposition expressed to the SESRO Reservoir proposal, with respondents wanting the needs of local residents considered, not the needs of other sectors, as well as highlighting concerns relating to the SESRO Reservoir proposal as summarised above. Support was expressed for the STT transfer proposal to be delivered earlier than currently planned.
- Of those disagreeing or strongly disagreeing to question 2*
- 4.34. 37 of the 45 respondents who indicated that they strongly disagreed or disagreed with WRSE's work with other sectors provided additional comments.

¹ Environmental ambition' is the phrase we use to describe the Environmental Destination set by the National Framework for Water Resources

- 4.35. Some of the comments by respondents related to objections to the SESRO Reservoir proposal (as summarised above) or expressed concerns that WRSE was seeking to meet the needs of other sectors in order to increase the scale of overall need, to benefit the water companies and their shareholders. Others considered that other sectors should meet their own needs, including through promoting their own demand management measures, and that the water companies should prioritise their customers' needs above others. A number of respondents highlighted the challenges and uncertainties of forecasting the needs of a wide range of other sectors given the potential for significant industrial and energy change over the lifetime of the plan. There were concerns that the needs of agriculture and environmental needs, including abstraction reduction relating to chalk streams, had not been given sufficient priority in the draft regional plan. Aside from the SESRO Reservoir proposal, the Hampshire Water Transfer and Water Recycling Project was objected to, and the STT transfer proposal canal option was supported. Some respondents found the question hard to answer or unclear.

Of those not indicating a multiple choice response to question 2

- 4.36. 2 of the 7 respondents who did not give a multiple choice response provided additional comments.
- 4.37. One respondent provided comments on the SESRO Reservoir proposal (as summarised above) and the other supported collaborative working and suggested this should extend to catchment and nature based solutions given the significant environmental benefits that they can bring.

Question 3 - Balance between demand management and resource development

Context

- 4.38. The draft regional plan explained WRSE's proposals for demand management measures and the development of new sources of supplies, identifying that a significant level of leakage reduction and water efficiency measures were needed over the initial part of the planning period to achieve

savings through the planning period, combined with significant new resource developments particularly into the 2030s and 2040s. Question 3 of the online questionnaire sought responses to the following question relating to the balance between demand management and new resource development:

The draft best value regional plan includes investment in new water supplies and activity to reduce the demand for water. The draft plan identifies that nearly 60% of the water needed by 2075 could come from demand management activities. This includes reducing leakage by at least 50%; extensive water efficiency through smart metering, customer behaviour change and new government policy; and the continued use of temporary restrictions on water use during periods of drought. The rest needs to come from a mix of new supplies. Do you think the draft regional plan strikes the right balance between reducing the demand for water and developing schemes to provide new water supplies?

Responses to question 3

- 4.39. There were 293 responses received to the question, as summarised below.

Response	Number	Percentage
Strongly agree	4	1.4%
Agree	28	9.6%
Neither agree or disagree	19	6.5%
Disagree	48	16.4%
Strongly disagree	188	64.2%
No choice selected	6	2.0%
	293	

Summary of issues raised in responses to question 3

- 4.40. Of the responses received, 270 of the respondents provided additional comments in support of their choice of response to the multiple choice

question. The responses have been reviewed and analysed, and are grouped in the sections below by multiple choice response.

4.41. Looking at the levels of response to Q3 as a whole:

- 162 (60%) of the responses repeated similar issues in their responses, targeted towards opposition to the SESRO Reservoir proposal. Many followed suggestions provided by the Group Against Reservoir Development, including that Thames Water should invest more in leakage reduction, water efficiency and wastewater treatment. Another focus of comments was to state that the UK population would be decreasing by 2075, and so demand should be falling not rising, calling into question the need for the SESRO Reservoir proposal. Comments were also made about the use of transfers including the STT transfer proposal ahead of the SESRO Reservoir proposal.
- 60 respondents commented on the level of demand management proposed in the draft regional plan. The majority were supportive of this and identified it as an essential component of the plan, some wanted WRSE to go further, including prioritising demand management more before new supplies are built. Other respondents were concerned about how achievable the demand management levels would be, and what the effects would be on customers and bills.
- A number of respondents commented on the different resource development options selected in the draft regional plan, including commenting negatively on desalination options and water recycling options including in Hampshire, due to their environmental impact. Water transfers were supported in responses, including the STT transfer proposal in preference for the SESRO Reservoir proposal, and the STT transfer proposal canal option over the pipeline. There was also support expressed for the GUC transfer proposal. The lack of catchment management options in the plan was highlighted as a concern in responses.
- Other respondents supported the balanced approach that WRSE was taking, specifically welcoming the significant planned investment in leakage reduction and water efficiency measures, in combination with new resource developments.

Of those strongly agreeing or agreeing to question 3

- 4.42. 26 of the 32 respondents who indicated that they strongly agreed or agreed with WRSE's proposed balance between reducing demand and developing new resources provided additional comments.
- 4.43. On the demand side, there was strong support for the planned investment in leakage reduction and other demand management measures, although some respondents whilst supportive of the plans questioned the details of what was actually proposed, and sought evidence on deliverability and certainty of achieving the levels outlined in the draft regional plan. One respondent suggested an equivalent of RAPID was required to oversee demand side measures, in the same way RAPID is overseeing delivery work on the strategic resource options. Other respondents urged WRSE and the water companies to go further than their current plans. Metering and tariffs were identified as part of the solution by some respondents, although others questioned the impact on customers, particularly vulnerable customers. More information on the role of wholesale companies working with retailers and business customers to reduce demand and secure water efficiency was also sought. The role of local planning authorities in securing water efficient new homes and business premises through the planning system was highlighted, as was the need for retro-fitting of existing stock. Local authorities in Sussex highlighted the need for urgent action on leakage and demand management given the Water Neutrality constraints in Sussex North water resource zone. The need for lobbying to secure earlier introduction of Government interventions was also supported in responses. It was also suggested that the planned abstraction reduction should not be linked to progress in achieving demand management savings, as environmental action should be a priority.
- 4.44. Respondents provided comments on supply side option types, with support for water transfers into and within the region including the GUC transfer proposal, whilst also questioning why options such as the GUC transfer proposal Phase 2 and Thames to Affinity Transfer are not priorities earlier in the plan period. Opposition was expressed to the need for and selection of

the SESRO Reservoir proposal in the plan. Comments on the need for desalination and water recycling options as part of the draft regional plan were also made, some supportive and some concerned at the environmental impacts. The potential for linking energy intensive options such as these with green energy or hydrogen production was also mentioned.

Of those neither agreeing or disagreeing to question 3

- 4.45. 11 of the 19 respondents who indicated that they neither agreed or disagreed with WRSE's proposed balance between reducing demand and developing new resources provided additional comments.
- 4.46. Respondents were generally supportive of the planned investment in demand management measures including leakage reduction, but some expressed concerns that not enough details on the measures that were being proposed were yet available. This raised fears about the impact on customers and their bills, and how deliverable the levels of savings would be, with the risk that failure to deliver might lead to more supply options being needed. Conversely some respondents felt that leakage reduction plans were not ambitious enough.
- 4.47. Some respondents supported desalination as an Island nation, whereas others were concerned about the impacts of both water recycling and desalination. The potential for renewable energy for desalination was specifically highlighted. Opposition was expressed to the SESRO Reservoir proposal, and Thames Water was urged to fix leaks instead.

Of those disagreeing or strongly disagreeing to question 3

- 4.48. 228 of the 236 respondents who indicated that they strongly disagreed or disagreed with WRSE's proposed balance between reducing demand and developing new resources provided additional comments.
- 4.49. The majority of those disagreeing with the question expressed their opposition to the need for and selection of the SESRO Reservoir proposal in the draft regional plan. Many followed suggestions provided by the Group Against Reservoir Development, including that Thames Water should invest

more in leakage reduction, water efficiency and wastewater treatment (to achieve the sector average in these areas), and commit to meeting the Government's proposed national target for per capita consumption by 2050. These responses also highlighted Thames Water's leakage rates, requesting significant action to reduce leaks. Another focus of comments was to state that the UK population would be decreasing by 2075, and so demand should be falling not rising, calling into question the need for the SESRO Reservoir proposal. Respondents indicated support for the STT transfer proposal (and/or the canal option) in preference to the SESRO Reservoir proposal, questioning why the SESRO Reservoir proposal was selected ahead of the STT transfer proposal in the draft regional plan. Respondents stated that the selection of the SESRO Reservoir proposal as a fixed option early in the plan period meant that the plan could not be adaptive. There was support for water recycling and desalination options as alternatives to the SESRO Reservoir proposal. Other comments questioned why water was to be transferred to London and Hampshire, and highlighted objections to the scale of the SESRO Reservoir proposal and the risks and environmental impacts on the environment and local communities during its construction and operation.

- 4.50. Other respondents were concerned at the current high levels of leakage and stated that urgent action was necessary to tackle this, as a pre-condition before seeking to consent and deliver major new resource schemes. Respondents commented that the 50% reduction target was not ambitious enough and that greater and earlier action by the water companies was required, as companies could not expect their customers to be more water efficient when they were leaking so much water themselves. The importance of water companies being able to influence customer behaviour was highlighted, but also recognised as a challenge given current public concerns about leakage and unrelated storm discharges to rivers and harbours. Whilst supportive of demand management measures, other responses urged caution over reliance on the savings from these measures unless they could be guaranteed to be delivered.

- 4.51. Some respondents suggested that there was too much focus on supply options and that greater and earlier focus on demand side options was necessary. Other responses urged more consideration of water recycling and water transfer options, including earlier in the plan period. There was support for, and opposition to, desalination due to its environmental impacts, with responses encouraging the consideration of new technologies to address some of these impacts. There was support for the development of Broad Oak Reservoir earlier in the plan period, and a request for early engagement with local authorities and other stakeholders on the number of new supply options being proposed in Kent. Concerns were expressed about the Hampshire Water Transfer and Water Recycling Project, linking concerns to the ongoing problems with storm discharges to harbours and rivers. Other respondents suggested that there should be a wider range of smaller resource schemes instead of a focus on a number of strategic options.

Of those not indicating a multiple choice response to question 3

- 4.52. 2 of the 6 respondents who did not give a multiple choice response provided additional comments.
- 4.53. Support was expressed for the leakage reduction plans and water efficiency measures, noting that nearly two thirds of the deficit was to come from these sources. The role of local planning authorities and the construction industry in securing measures in new housing was highlighted. The achievability of demand management savings was a concern, with respondents wanting to see evidence of reduced personal consumption as behavioural change can take time to achieve. The suggestion of learning lessons from other public behaviour change campaigns was highlighted. The need to tackle demand management in non-households was also flagged as being important to focus on.

Question 4 – Water transfers

Context

- 4.54. The draft regional plan explained how WRSE's draft regional plan relies on significant investment in the development and sharing of water resources

between water companies, both within the South East region, and between the South East and other regions. Question 4 of the online questionnaire sought responses to the following question relating to these water transfers:

The draft best value regional plan promotes increased collaboration between water companies in the development of new water sources and the construction of more transfers to move water around the region and share it between companies. Do you support the increased collaboration between the water companies in the South East and other regions, through the development of shared resources and an enhanced network to transfer water around the region and between regions?

Responses to question 4

- 4.55. There were 293 responses received to the question, as summarised below.

Response	Number	Percentage
Strongly agree	183	62.5%
Agree	40	13.7%
Neither agree or disagree	22	3.4%
Disagree	15	5.2%
Strongly disagree	25	8.5%
No choice selected	8	2.7%
	293	

- 4.56. Looking at the levels of response to Q4 as a whole:
- 154 (59%) of the responses focused on support for water transfers such as the STT transfer proposal, and or the GUC transfer proposal, either instead of, or before, the development of the SESRO Reservoir proposal. Many followed suggestions provided by the Group Against Reservoir Development, including that WRSE should stop talking about the need for water transfers which had been known about for years, and get on with them, prioritising the STT transfer proposal and the GUC transfer proposal ahead of the SESRO Reservoir proposal. Comments were also

made about the benefits of transfers, compared to the potential environmental and other impacts associated with the construction and operation of the SESRO Reservoir proposal.

- Approximately 60 other respondents supported the plans for water transfers, commenting that sharing resources between regions and companies was a sensible approach.
- Other respondents expressed concerns about the environmental impact and cost of pumping water over long distances, and concerns about the resilience of the sources of water in the other regions. Some respondents questioned the overall sustainability of the approach, and suggested more local solutions within the South East should be developed first. Others promoted more demand management and leakage reduction ahead of water transfers or other new supply options.

Of those strongly agreeing or agreeing

- 4.57. 204 of the 223 respondents who indicated that they strongly agreed or agreed with WRSE's approach to transfers of water provided additional comments.
- 4.58. There was strong support from respondents for the principle of water transfers both into and within the region as a key part of the draft regional plan. Sharing water was seen as a sensible and appropriate solution, and many respondents questioned why transfers weren't already used more heavily. A large proportion of those expressing support for water transfers, expressed their opposition to the need for and selection of the SESRO Reservoir proposal in the draft regional plan, and their preference for the STT transfer proposal and the GUC transfer proposal Phase 2 instead. Many followed suggestions provided by the Group Against Reservoir Development, including that the need for transfers has been known for years and WRSE and the companies should just get on with it. Other respondents also expressed support for the STT transfer proposal and for the GUC transfer proposal. Some respondents indicated their preference for the STT transfer proposal canal option.

- 4.59. Respondents caveating their support identified that whilst supporting transfers, they also wanted to see the development of sufficient new resource options within the region as well, so as not to be too dependent on other regions or companies. Some respondents questioned whether it was customers of the water companies or shareholders who would benefit the most from the proposals in the plan. The potential for greater water recycling opportunities and sharing resources between water companies in Kent was highlighted in some responses, as was the potential for desalination. Other respondents expressed support for transfers as part of the overall solution, but commented that the focus on demand side savings should not be lost. Some concerns were expressed about the financial and carbon costs of water transfers, and the potential environmental impacts of moving water between catchments.

Of those neither agreeing or disagreeing

- 4.60. 18 of the 22 respondents who indicated that they neither agreed nor disagreed with WRSE's approach to transfers of water provided additional comments.
- 4.61. A number of the respondents were supportive of the principle of transferring water either between regions or within the region, but provided comments to caveat their support. Individual options such as the GUC transfer proposal or the STT transfer proposal canal option were specifically supported. Respondents wanted to ensure that transfers would benefit customers and not water company shareholders, and sought transparency over the details of the costs and benefits of proposed transfers. Other respondents wanted re-assurance that transfers to another region would not leave the transferring region or area at a disadvantage or make it less resilient, and to make sure that water being transferred was sustainable and not reliant on a large new reservoir. Other respondents wished to see demand management measures maximised before new transfers were promoted.

Of those disagreeing or strongly disagreeing

- 4.62. 36 of the 40 respondents who indicated that they strongly disagreed or disagreed with WRSE's approach to transfers of water provided additional comments.
- 4.63. The majority of respondents supported the principle of water transfers, but disagreed with the proposals in the draft regional plan as they prioritised the SESRO Reservoir proposal over the STT transfer proposal. Respondents considered that WRSE should get on with the water transfers as soon as possible. As well as opposition to the SESRO Reservoir proposal due to the environmental and other impacts of the proposal, and the lack of benefits for Oxfordshire, there was support for the STT transfer proposal to be developed instead of the SESRO Reservoir proposal, and/or at the very least before the SESRO Reservoir proposal. There was also support, and opposition, for the STT transfer proposal generally, and support for the GUC transfer proposal. Support was expressed for canal based transfers as an alternative to other less socially and environmentally beneficial options. Other respondents however, were concerned about the financial and environmental costs of long distance transfers and felt that solutions should be identified and developed local to the need. It was suggested that decisions must be taken on the least overall environmental impact and not on cost. A counter view though, was that support was also expressed for water transfers to be used to transfer water from new reservoirs located outside of the South East.
- 4.64. Some respondents were opposed to the Thames to Southern Transfer proposal, as it was reliant on the SESRO Reservoir proposal and did not generate new water, simply moving it around the region. There was a suggestion that a desalination plant in Hampshire would be more beneficial to the region as a whole, rather than relying on transferring water from the SESRO Reservoir proposal to Hampshire. Concerns were also expressed about the collaboration taking place between Southern Water and Portsmouth Water over the Hampshire Water Transfer and Water Recycling Project, as part of opposition to that option. Other respondents were concerned that water sharing and collaboration between companies may not

promote competition, and that customers would not benefit but water company shareholders would. Seeking international good practice and experience was suggested by one respondent.

Of those not indicating a multiple choice response

- 4.65. 3 of the 8 respondents who did not give a multiple choice response provided additional comments.
- 4.66. Two of the respondents were supportive of the principle of regional transfers, with one supporting the STT transfer proposal before 2030 and the advancement of the GUC transfer proposal Phase 2. The other respondent opposed the principle of the STT transfer proposal due to concerns about environmental impact, and the long term sustainability of the proposed transfer. Detailed comments against the proposal were provided by the Trust.

Questionnaires – other comments

- 4.67. As well as the four questions, there was the opportunity to provide additional 'free text' responses on the issues covered by the 4 questions or any other matter relating to the draft regional plan. 235 of the 293 respondents took the opportunity to comment, and the themes and issues raised in these comments are summarised below, and responded to in later sections of this Consultation Response document.
- 4.68. Approximately 190 of the responses include additional comments in opposition to the SESRO Reservoir proposal and/or in support of the STT transfer proposal, including following suggestions provided by the Group Against Reservoir Development. Respondents repeated earlier comments that the scale of need was inflated, requested that their comments were listened to and actioned, and considered that there were alternatives to the SESRO Reservoir proposal which should be preferred and included within the regional plan.
- 4.69. Other comments from respondents included support for the plan as a whole, and the co-ordinated work between companies and across regions. Some

comments expressed concern that more was not being done quicker on leakage reduction and water efficiency, and considered that WRSE should select a wider range of new supply options, including smaller options that could be developed quicker. Other respondents were concerned at the extent of reliance on water efficiency measures, noting this would impact on customers and there were risks over achieving the significant savings planned.

- 4.70. There was significant support for planned reduction in abstraction to deliver environmental benefits (particularly for chalk streams and other sensitive environments), and requests for more catchment management and nature based solutions to be incorporated into the regional plan. Support was also expressed for the STT transfer proposal canal option and for the GUC transfer proposal, as well as detailed comments on individual options including opposition to the Hampshire Water Transfer and Water Recycling Project. There were also extensive negative comments about water company performance on leakage, the issue of shareholder profits, and sewage discharges.
- 4.71. WRSE's response to the themes and issues raised in the questionnaires is set out in subsequent Sections 7 to 25 of this Consultation Response document.

5. Overview of other written responses

Context

- 5.1. Many respondents provide non-questionnaire responses – either by email or post to WRSE. Some of these responses were copied to WRSE as well as being sent to Defra and an individual water company, as a representation not just on the draft regional plan but also on an individual company draft WRMP as well.
- 5.2. As noted in Section 3 of this document, a total of 608 other written responses were received, either by email or post. The majority of the 608 questionnaire responses were submitted by individual customers or residents, but 65 were submitted by or on behalf of organisations including Local Authorities, Parish Councils, MPs, campaigning organisations, Consumer groups, environmental bodies and business and other organisations. A full list of the organisational responses is attached at Appendix 1 to this Consultation Response document.
- 5.3. Of the 608 responses received, approximately 520 of them were focused on either opposition to, or support for, a single option in the draft regional plan. These were principally from individuals or organisations opposed to the Hampshire Water Transfer and Water Recycling Project, opposed to the SESRO Reservoir proposal, and supporting the STT transfer proposal (or the STT transfer proposal canal option). A smaller number of respondents commented on other options including support for the GUC transfer proposal, the Broad Oak Reservoir proposal or other options.
- 5.4. This section of the Consultation Response document summarises the responses received from the different organisational respondents, and from individual respondents, identifying themes and issues raised. WRSE's response to the themes and issues is then set out in Sections 7 to 25 of this Consultation Response document.

Regulatory and other Government responses

- 5.5. The Environment Agency (EA) considered that WRSE's draft regional plan mostly demonstrates that it will meet the region's water needs, protect and enhance the environment, and reflect the needs of other sectors in the short and long-term. It commended WRSE on the publication of a good quality draft regional best value plan that met the majority of its expectations for a regional plan. The EA noted that WRSE is a well-run regional group that has played an important role in setting direction nationally in water resources planning. It recognised that WRSE had undertaken a significant amount of work since the emerging plan, including the completion of its best value modelling and it considered that the regional plan represented the start of a step change in how water is planned and managed. However, the EA stated that to ensure the regional plan is robust it identified a number of recommendations for WRSE, given its established nature, the level of detail and complexity of approach, and the challenge the South East faces:
 - Increase long-term demand management ambition and mitigate uncertainty in delivery of short-term demand reductions
 - Increase the pace of delivery for environmental destination and improve clarity and justification for the selected level of ambition
 - Justify that the preferred plan is best value, clarifying the decision making used and detail how adaptive planning will be applied, including monitoring, to mitigate risks
 - Revisit the justification for the size of the SESRO Reservoir proposal selected, taking account of any benefits of earlier delivery of environmental destination and public water supply resilience that may be provided by a larger SESRO Reservoir proposal compared to that selected in the draft regional plan, ensuring that the final regional plan is best value for the region
 - Demonstrate that WRSE's selection of strategic options is optimal, ensuring assumptions are consistent across companies and regions
 - Update and improve information provided on WRSE's non-strategic options and further explore the potential for catchment schemes and regional solutions on the Kent coast

- Undertake further improvements for the final plan on the presentation of drought measure benefits, 1 in 500 resilience and target headroom.
- 5.6. Ofwat stated that WRSE's draft regional plan showed good progress from the emerging plan, and that WRSE had produced high quality written material to explain its draft regional plan and taken on board important points raised through previous consultations. It recognised that WRSE had taken a leading role in co-ordinating the work of regional groups and the regional reconciliation process. Ofwat provided detailed feedback and comments for WRSE under headings relating to the assessment of water needs; options to meet water needs; decision making and prioritisation, ambition and outcomes; and stakeholder engagement.
- 5.7. Natural England welcomed WRSE's adaptive planning approach used in the draft regional plan and recognised the significant amount of work that had been undertaken to get to this stage. However, it did not consider that the level of environmental ambition in the business-as-usual plus (BAU+) scenario in the draft regional plan would result in a plan which prevents environmental deterioration or encourages enhancement at the level or pace required by legislation and policy. Natural England also requested that the HRA and SEA of the regional plan are updated and completed, with more assessment of the considerable environmental impacts forecast in the regional plan, including for specific named options, and option types such as desalination. Natural England was also disappointed that catchment management options were not selected in the plan and encouraged greater evidence of benefits to increase their value in future plans. It also challenged WRSE and the companies to keep looking for ways to deliver more demand management and leakage reduction, and set even more ambitious targets.
- 5.8. The Forestry Commission welcomed the great efforts and crucial importance of securing water supply for the future and the consideration that had been given to the environment as part of this. It was encouraged by the plan's consideration of how the plan can deliver environmental gains but concerned by the potential loss and impacts on ancient woodland and non-ancient woodland/trees that could be caused by the infrastructure proposed as part of delivering the plan.

- 5.9. Historic England supported WRSE's approach to identifying a best value plan, but raised concern at what it saw as inadequate reference to the historic environment within the draft regional plan, or in the assessment of potential impacts associated with the options selected in the plan. Historic England emphasised that there are many designated and undesignated heritage assets in the South East, and the proposals in the plan could impact on them in many different ways. It wished to see heritage impact assessments completed to inform site selection and detailed work on individual options.

MP responses

- 5.10. Three responses were received from MPs, Siobhan Baillie (MP for Stroud) expressed strong support for the STT transfer proposal canal option for the significant benefits that it would deliver, and questioned why the SESRO Reservoir proposal was prioritised over that option. David Johnston (MP for Wantage and Didcot) expressed opposition to the SESRO Reservoir proposal, highlighting his, and constituents, concerns about the details of the proposals, available alternatives including the STT transfer proposal, and Thames Water's record on leakage. Layla Moran (MP for Oxford West and Abingdon) submitted a questionnaire response expressing opposition to the SESRO Reservoir proposal, support for the STT transfer proposal, questioning the population projections underpinning the plan and also commenting on leakage performance.

Local government responses

- 5.11. A number of District and County Councils across the South East supported the concept of regional planning and collaboration between regions and water companies, in combination with long term planning to ensure secure supplies for planned future housing and employment growth. Some authorities expressed concern that planned growth levels were either higher or lower than that which would be expected to materialise over the plan period, with the risk that water supplies could be under or over provided as a result. There was general support for planned levels of environmental ambition, and authorities with chalk streams in their areas were supportive of measures to reduce abstraction to secure their protection. Some

authorities were concerned that either too much or not enough abstraction reduction was being planned for. Some considered that the population growth figures overstated the need (particularly in relation to the SESRO Reservoir proposal).

- 5.12. Local authorities expressed strong support for planned leakage reduction and water efficiency measures, emphasising the role that planning authorities have in seeking to secure high water efficiency measures in new housebuilding projects. A number of local authorities urged water companies to do more on leakage reduction and water efficiency, including retro-fitting in existing properties. Some stated that achieving leakage reduction and water efficiency targets should be a pre-requisite before major new water resource developments are planned and implemented. Responses were also received from individual Councillors and a number of questionnaire responses were also received from local authorities.
- 5.13. As well as commenting on various aspects of the regional plan as summarised above, Oxfordshire County Council, Vale of White Horse District Council and South Oxfordshire District Council expressed their strong opposition to the SESRO Reservoir proposal in the draft regional plan, questioning the need for the scheme, preference for alternative solutions, and highlighting concerns at the scale and potential impacts of the proposals on the local environment and local communities. Other local authorities commented on other options selected in the plan, including water recycling and desalination options in particular, and authorities were generally supportive of the GUC transfer proposal and the STT transfer proposals in the plan.

Parish or Town Council or Councillor responses

- 5.14. A number of parish council responses were received, expressing support or opposition for individual options in the draft regional plan, including opposition to the SESRO Reservoir proposal (selected in the draft regional plan in 2040) and Broyle Place reservoir (selected in 2075), opposition to the Hampshire Water Transfer and Water Recycling Project (selected in 2030), support for the GUC transfer proposal (selected in 2031) and the STT transfer

proposal (selected in 2050), and for Peacehaven water recycling (selected in 2041). Comments were also made urging greater and faster action to tackle leakage, and to promote water efficiency. In terms of option types, respondents expressed support for the principle of additional water storage in the South East, and concerns about the environmental impacts and risks associated with water recycling and desalination. A number of questionnaire responses were also received from parish councils or parish councillors.

Regional water group responses

- 5.15. Water Resources West (WRW) thanked WRSE for working collaboratively through working groups and the regional reconciliation process, emphasising the importance of ensuring consistent representation of shared resources between the plans. It welcomed the inclusion of the GUC transfer proposal and the STT transfer proposal within the draft regional plan, providing comments including on how the details of the STT transfer proposal were presented in the draft regional plan to ensure consistency with WRW's plan. Water Resources East (WRE) similarly responded to support the regional collaboration process, and to confirm that the options discussed with WRE had been appropriately included within WRSE's draft regional plan.

Wildlife Trust, canals, rivers and environmental organisational responses

- 5.16. Blueprint for Water welcomed WRSE's decision to bring the decision and branch points in WRSE's adaptive planning approach earlier in the draft regional plan, from the 2040 and 2060 dates in the emerging plan to 2030 and 2035. It also welcomed the abstraction reductions and environmental ambition in the plan, but requested clarification on the extent to which WRSE's proposals exceeded the minimum BAU+ expected by regulators, noting the additional protection and benefits arising from the enhanced scenario. Detailed comments were provided on environmental ambition, nature based solutions, demand management and new resource developments and environmental objectives relating to them. Sussex Wildlife Trust provided similar comments.

- 5.17. Action for River Kennet similarly supported the abstraction reduction measures and prioritisation of chalk streams. Darent Valley Trout Fishers and Herts and Middlesex Wildlife Trust similarly welcomed the commitment towards ending unsustainable abstraction but urged more and faster action. The Trust provided detailed comments on the Lea and Stort Catchment, and was concerned that improvements there would be delayed to 2040. It urged WRSE, Ofwat and Defra, to include the Chalk Streams First Proposal (CSF) within the draft regional plan.
- 5.18. RSPB provided responses to WRSE's questions as well as additional comments on the need to ensure the environment is protected first, deliver environmental improvements, the importance of reducing demand for water and commenting on the potential adverse impacts of options including desalination and wider environmental impacts and benefits of the draft regional plan.
- 5.19. Hampshire and Isle of Wight Wildlife Trust was pleased to see that the regional plan took steps to reduce reliance on abstraction from chalk streams by tackling leaks and implementing water efficiency measures. However, it considered that the plan must go further to place the environmental limits of river catchments at the heart of decision-making and ensure that the highest environmental ambition scenario was delivered. It stated its concerns that the 'best-value approach' did not effectively consider the environmental impacts and recommended a natural capital approach to cost benefit assessments of all investments. The Trust provided detailed comments on abstraction reduction, demand management, biodiversity net gain, nature based solutions, and on schemes identified for development in the plan within Hampshire, and concerns about their environmental effects.
- 5.20. The Canal and Rivers Trust (CRT) has worked with WRSE and the other regional groups on the draft regional plans, and noted its extensive track record in managing raw water transfers for public water supply through its network. CRT provided comments on a number of options, both those selected in the draft regional plan and available as potential alternatives.
- 5.21. A number of organisations expressed strong support for the STT transfer proposal canal option, including the Inland Waterways Association, the Company of Proprietors of the Stroudwater Navigation, the Cotswold Canals Trust, Cotswold Canals Connected Partnership, British Marine, and the Stroud Valleys Canal Company. Respondents considered that the benefits of the canal option, both economic, health and welfare had not been accurately or fully costed and included within WRSE's best value planning. They suggested that the option should be prioritised over the SESRO Reservoir proposal or the STT transfer proposal currently selected in the draft regional plan. The Cotswold Canals Trust and Cotswold Canals Connected Partnership similarly expressed strong support for the STT transfer proposal canal option, highlighting the significant and wide ranging benefits of the option, including the potential for its implementation ahead of the SESRO Reservoir proposal, and the potential for phased implementation.
- 5.22. The Port of London Authority (PLA) noted the importance of consulting with it on any proposals that have potential to affect the flows in the Thames, tides, currents or sedimentation. It noted its statutory duty to maintain minimum water heights at Richmond Lock and Weir under the Port of London Act 1968 (as amended), and stated that the PLA was not currently represented on any of the WRSE advisory/stakeholder groups. The PLA asked to be involved in the planning process for the Thames Estuary desalination proposals to ensure it aligned with the goals of Thames Vision 2050 and Thames Masterplanning.
- 5.23. Other local environmental groups and river trusts submitted questionnaire responses, including Gloucestershire Wildlife Trust expressing opposition to the STT transfer proposal.
- Campaigning organisational responses**
- 5.24. The Group Against Reservoir Development submitted a detailed submission, in which it considered that there was no need for the SESRO proposal, that WRSE's forecast of future needs was overstated by 886 Ml/d by 2050. The Group also challenged WRSE's assessment of abstraction reductions due to

environmental ambition (arguing that no decisions should be taken on new resource developments until the scale of abstraction reduction is clear), the scale of population growth and increased need for water resulting from it, and urged greater plans for leakage and per capita consumption (PCC) reductions. A number of options were commented on, which were considered to be capable of being delivered earlier, or providing more water, than WRSE was planning for. The Group also considered that WRSE's cost comparisons, carbon, environmental and biodiversity net gain assessments were not adequate. It also highlighted safety issues with the SESRO Reservoir proposal in its response.

- 5.25. A number of other campaigning organisations also expressed opposition to the SESRO Reservoir proposal, including the Wantage and Grove Campaign Group which questioned the level of population growth and need presented in the draft regional plan, the prioritisation of the SESRO Reservoir proposal over the STT transfer proposal and the lack of adaptability or flexibility in the plan as a result. It expressed support for demand management measures, and expressed its opposition to the SESRO Reservoir proposal for the landscape and environmental impacts, including carbon, that it considered would result.
- 5.26. CPRE responded on behalf of its branches across the South East, commenting that it considered WRSE's future demand was exaggerated and that lower population projections and climate change scenarios should be adopted. It supported further investigation of abstraction reduction proposals, but requested urgent action for those areas most at risk. Support was also expressed for achieving the Government's national PCC target. In relation to options, CPRE recommended water transfers and water recycling should be given highest priority and noted that decarbonisation may make desalination more attractive in the future, subject to rigorous environmental assessment. It considered the SESRO Reservoir proposal not to be adaptable or scalable, had high environmental impact and should be given a low priority. The Oxfordshire Environment Board made similar comments to the CPRE.

- 5.27. A number of organisations including Havant Climate Alliance and Havant Friends of the Earth, the Solent Protection Society, and Green Party - Havant expressed opposition to the Hampshire Water Transfer and Water Recycling Project, identifying their significant concerns about environmental impacts and scheme delivery risks, and expressing preferences for alternative water resources solutions to be pursued instead. Other organisations opposed to the scheme submitted questionnaire responses.

Other organisational responses

- 5.28. Energy UK supported WRSE's multi-sector collaboration but commented on the need for further work and resourcing of other sectors to better develop understanding of their future needs. It noted the energy decarbonisation planned and the uncertainty in future water needs arising from this. Comments were also made on individual options and the need to consider impacts on power sector abstractors, including from planned transfers such as the GUC transfer proposal and the STT transfer proposal.
- 5.29. The Institution of Civil Engineers (ICE) commended WRSE on its regional planning, and the response to the challenges of climate change, population growth and the need for resilience across regions to guarantee water supplies. ICE considered that affordability could be an additional challenge. The 50 year long term planning was expressly supported although ICE noted that in terms of resilience and climate change even longer term consideration was needed. Multi-sector collaboration was supported.
- 5.30. Waterwise commended WRSE overall on a well written and very well presented plan. It supported the long term and adaptive planning approach, and considered that the approach to assessing future household water needs was robust and thorough. It was supportive of the work with other sectors, but would like to see WRSE working more closely with non household public water supply users, water retailers and trade bodies to encourage and help support reducing demand and improving resilience. It was concerned that the draft regional plan didn't present what meeting the "Enhanced" environmental destination would mean for the plan and requested more clarity on environmental destination in the final plan.

Waterwise was also supportive of the planned water efficiency measures but was frustrated more details on the specific measures were not included in the draft plan. It provided detailed comments on a number of topics.

- 5.31. The NFU and Country Land and Business Association (CLA) responses both welcomed and supported WRSE's collaborative work with other sectors, but highlighted the importance of better data and understanding of the needs of other sectors is still required. The importance of the agricultural and horticultural sectors was highlighted in their responses, together with the needs of rural businesses. Similar support for the needs of the horticultural sector were made by the West Sussex Growers Association and Horticultural Trades Association.
- 5.32. Waterscan supported efforts to meet the supply and demand challenges, and supported investment in drought resilience, reducing leakage and PCC, and abstraction reduction for environmental reasons. However, it considered that companies should push for greater ambition in the planned leakage reduction and PCC targets they were seeking to achieve, including smart metering. The need to consider impacts on non household customers was also emphasised. Partnership working on nature based solutions was also supported, whilst noting that pollution and sewage discharge events needed to be reduced.
- 5.33. Other water resource options were suggested by respondents, including the potential for a large number of smaller reservoir and pond storage to be developed, as being easier to consent and build than large strategic reservoir options.

Individual responses

- 5.34. The vast majority of the individual written responses received were focused on either opposition to, or support for, a single option in the draft regional plan. These were principally from individuals or organisations opposed to the Hampshire Water Transfer and Water Recycling Project, opposed to the SESRO Reservoir proposal, and supporting the STT transfer proposal (or the STT transfer proposal canal option). Smaller numbers commented on other

options including support for the GUC transfer proposal, the Broad Oak Reservoir proposal or other options.

- 5.35. As has been stated elsewhere in this Consultation Response document, as well as being concerned about environmental impacts, respondents opposed to the SESRO Reservoir proposal considered that the need for additional water had been over-stated and that other local solutions should be developed in preference to the SESRO Reservoir proposal.
- 5.36. Respondents opposed to the Hampshire Water Transfer and Water Recycling Project were similarly concerned about potential environmental impacts associated with the proposal, disagreed with changing the reservoir that has now been granted planning permission, and a number flagged concerns over drinking recycled water. Detailed comments and concerns were expressed about the proposal, with strong views expressed that alternative options had not been robustly considered and should be preferred.
- 5.37. In these and other comments, respondents also expressed strong support for tackling leakage but wanted further and faster action taken, support for greater water efficiency, with many also highlighting the need for action by Thames Water and Southern Water to prevent storm and sewer discharges to rivers and the marine environment. There was support for joint working between regions and companies, and for the long-term planning being undertaken, as well as support for catchment and nature based solutions and planned environmental improvements including on carbon and biodiversity.
- 5.38. WRSE's response to the themes and issues raised is set out in Sections 7 to 25 of this Consultation Response document.

6. Other feedback relating to the draft regional plan

Context

- 6.1. In addition to the questionnaire and other written responses received by WRSE, there was other feedback relating to the draft regional plan.
- 6.2. WRSE and our member water companies organised customer research on the proposals in the draft regional plan. A summary of this research is set out in this section of the consultation response document.
- 6.3. In addition, the six water companies undertook their own statutory consultations on their individual WRMPs. Whilst responses to those WRMPs are separate from the WRSE draft regional plan process, a brief commentary on the similarities or differences between WRSE and water company responses is provided in this section of the consultation response document.

Customer research

- 6.4. WRSE and the water companies in the South East commissioned independent expert economics and engagement consultancy Eftec to design and implement a programme of focused household and non-household customer engagement around the proposals in the regional plan. Eftec's work sought to examine customer's preferences for the balance of the regional long-term water resources plan in terms of reducing demand for water, developing new schemes, and bill impact.
- 6.5. Approximately 1,700 household and non-household customers participated in an online survey that was carried out between March and May 2023. Eftec ensured that the respondent samples were representative of the South East of England and provided coverage of the six WRSE water companies.

- 6.6. Survey respondents completed a series of choice exercises to pick their preferred profiles for the regional plan, selecting:
 - Preference over alternative plans without bill impact. This provided an “unconstrained” view of customer preferences based on the profile of each plan (i.e. the mix of schemes and impacts).
 - Preference over alternative plans with (randomised) bill impact. This provided a “constrained” view on customer preferences reflecting trade-offs between higher/lower bill amounts and the profile of each plan.
- 6.7. The profiles of alternative plans shown to respondents were specified from WRSE's investment modelling outputs for the draft regional plan. The plans illustrated the alternative high-level choices and trade-offs for the balance of the regional plan based around sources of water (supply schemes, inter-region transfers and demand management) and selected bill impacts.

Key findings

- 6.8. A series of key findings were concluded following analysis of the customer preferences by Eftec.
- 6.9. Customers' overall preference is for a balanced regional plan. The three most-preferred plan profiles for both households and non-households were the Least Cost, Best Value and Gov C (the level of Government interventions used as the basis for the draft regional plan) plans. These all featured a mix of strategic resource schemes and higher levels of demand management ambition. Whilst differences in the strength of preference between the three plans were relatively modest – and varied according to level of bill impact – they were clearly preferred over alternative plans including the plan that excluded the SESRO reservoir proposal, and Gov H (no Government led demand management interventions) plans. In combination, the level of support for these plans was around 70% - 75% of household and non-household samples. The Least Cost and Best Value plans in combination accounted for around half of customers' preferred plan responses.

- 6.10. Customers value the added resilience offered by the Best Value plan. There was an observed shift in household and non-household preferences at higher bill amounts, where the level of support for the Best Value plan tended to increase. The added dimension of the Best Value plan is the higher level of resilience to unexpected events and the results suggests that customers found this to represent better value for money over the alternative plan profiles at higher bill levels. At lower bill amounts it was also evident that these aspects of the regional plan stood out for the greater proportion of customers, given the comparatively low level of preference observed for the plan that excluded SESRO, which offered lower resilience to unexpected events.
- 6.11. Customers recognise the need to reduce demand and see this as an integral part of the regional plan. A consistent finding across all aspects of the analysis of customer preferences was the low level of preference for the Gov H plan (no Government led intervention for demand reduction). On this basis, the higher level of support for Least Cost and Best Value plans can be attributed in part to the inclusion and sooner introduction of water efficiency and product standards to support targets to reduce per capita consumption. Moreover, there was a comparable level of support for the highest level of demand management ambition through the Gov C plan at lower bill impact levels.
- 6.12. The tailing-off in the level of support at higher bill amounts for increased demand management ambition via the Gov C plan likely reflects the value for money perspective of customers. As the cost of a plan increases for customers, it became increasingly important for it to incorporate strategic resources that contribute to enhanced resilience – i.e. effectively paying for added “insurance” for security of future water supplies - and for there to be less reliance on reducing demand, which poses risks as there is an increasing level of uncertainty that the higher levels of water savings needed can be achieved.
- 6.13. Customers’ preferences did vary across the region but in line with the profile of the alternative plans. The greatest level of support for the Best Value plan

was observed from respondents in the Lower Thames area. The Least Cost plan stood out as having the strongest level of preference from respondents in the West, and this was by a sizeable margin even at higher bill impact amounts (approx. 50% share). In both cases, the support observed for these plans corresponds with the strategic resource options they include that would see water moved from the Upper Thames area to the Lower Thames and West areas.

- 6.14. In contrast, respondents in the Upper Thames had more mixed views. A preference for a greater emphasis on demand management (Gov C plan) was observed – compared to the other areas – and, particularly at higher bill amounts. Overall, though, the difference in the level of support between the Gov C and the Least Cost plan was marginal.
- 6.15. The Best Value and Least Cost plans either individually or in combination also tended to be most favoured in the Central, East and South areas. This is consistent with overall observed preference that customers tended to favour plans that offered a mix of solutions, over greater dependency on local level schemes and the highest level of demand management ambition.
- 6.16. Split views between the Least Cost and Best Value plans were in part attributable customer socio-economic and demographic characteristics. The Best Value plan tended to be supported more by younger respondents (24 or younger) and those in higher Social Economic Groups (SEGs), whilst the Least Cost plan was typically favoured by older respondents (55+) and lower SEGs. The distinctions in this regard, though, tended to reduce at higher bill impact amounts where support for the Best Value plan increased across all age groups and SEGs.

Conclusions

- 6.17. In aggregate no single plan stood out with a majority share of customer support. The balance of preference varied according to aspects including bill impact, location, and customer characteristics. Nevertheless, the research findings in relation to the patterns of customer preferences are conclusive

and Efttec considered that the following points could be drawn as conclusions with respect to the choices that remain for finalisation of the regional plan:

- 6.18. There is a greater level of customer support for a regional plan that incorporates large strategic schemes that can share water resources across multiple company areas. An alternative approach with more emphasis on “local” schemes (e.g. a plan that excluded SESRO) received relatively limited support and was clearly less preferred by most customers.
- 6.19. In line with the greater level of support for a plan incorporating strategic schemes, the greater weight of customer preference was for self-sufficiency within the WRSE region. Large-scale transfers from outside of the region were not viewed as the primary solution. Indeed, the level of support observed for the Gov C plan indicates that a sizeable proportion of customers preferred demand reduction over reliance on large-scale transfers as the basis of “balanced” regional plan to secure water supplies.
- 6.20. The regional plan must be supported by Government led-measures to help bring down per capita consumption. The Gov H plan and limited level of demand management ambition was clearly the least supported plan overall by customers. At the opposite end of the scale, more customers tended to favour enhanced resilience over the very highest level of demand reduction, indicating that there is a limit to the level of ambition – and risk - that should be targeted in the regional plan. For a sizeable proportion of customers, the appropriate balance appears to be achieved by the Best Value plan (50% demand management measures).
- 6.21. A copy of the Efttec report on the customer research outcomes is available in the [WRSE Document library](#) on its website.

Draft WRMP consultation responses

- 6.22. This Consultation Response document has been prepared by WRSE on the responses received on the draft regional plan. It does not include the responses submitted on individual WRMPs, nor should it – as those are separate statutory processes. However, this section of the document briefly

comments on similarities and differences between comments submitted on the draft regional plan and comments submitted on the draft WRMPs. This summary has been drafted from WRSE’s perspective and is solely provided as context and background to this Consultation Response document. Full details of the comments on individual WRMPs and the water company response to the comments are set out in the individual company WRMP Statement of Response documents, published on their respective websites.

- 6.23. Separate from the consultation on the draft regional plan, the six water companies undertook their own statutory consultations on their individual draft WRMPs. The draft WRMP consultations took place at the same time as, or overlapped with, the consultation on the draft regional plan.
- 6.24. It is important to note that the WRMPs are, unlike the regional plan, statutory plans for which prescribed process and regulations relating to their preparation, consultation and finalisation need to be followed. Following receipt of consultation comments on the draft WRMPs, the six water companies in the South East are each preparing a Statement of Response document, which identifies the consultation responses on the draft WRMPs, the company’s response to the comments, and how the WRMPs have changed as a result. Once complete, these documents are published on the company websites and submitted to Defra.
- 6.25. A large number of respondents provided comments to both WRSE and the relevant individual water company WRMP for their respective area of interest/geographic location. Some respondents submitted the same comments to WRSE and the relevant water company. Where common issues have been raised in relation to both the draft regional plan and draft WRMPs, the response on behalf of WRSE (in this Consultation Response document) and the relevant water company (in its Statement of Response) use common response wording in some cases.
- 6.26. As is the case with the responses on the draft regional plan, the largest volume of responses received on draft WRMPs related to individual water resources options selected within the plans, including proposed reservoirs,

water recycling, desalination, and water transfer options. Many respondents expressed their opposition to individual options selected, and/or expressed concerns about the potential impacts associated with their construction and operation. However, support for various options was also expressed in responses. In common with comments received on the draft regional plan, some draft WRMP respondents questioned the scale of the future water resources challenges being faced, and the volume of additional water resources required as a result.

6.27. In relation to the larger options selected in the draft regional plan and draft WRMPs, those receiving most comments were:

- the SESRO reservoir proposal – for which high numbers of comments expressing opposition to the proposal were received by both WRSE on the draft regional plan, and by Thames Water on its draft WRMP, although some support for the proposal was also expressed
- the Hampshire Water Transfer and Water Recycling Project - for which high numbers of comments expressing opposition to the proposal were received by both WRSE on the draft regional plan, and by Southern Water and Portsmouth Water on their draft WRMPs
- the Severn Thames Transfer proposal – for which high numbers of supporting comments were received by both WRSE on the draft regional plan, and by Thames Water on its draft WRMP, including support for a canal based transfer option. Some opposition to the proposal was also expressed.
- the Teddington Direct River Abstraction proposal - for which a high number of comments expressing opposition were received by Thames Water on its draft WRMP, whereas WRSE did not receive many comments on this option
- the Grand Union Canal transfer option – for which a level of support was expressed in responses to both the draft regional plan and Affinity Water’s draft WRMP.

7. Population and demand forecast

What did the draft Regional Plan propose

- 7.1. The draft regional plan identified that the South East region's population could grow by between 2% and 33% over the next 50 years. This range was based on projections using the latest available regional forecasts produced by the Office of National Statistics (ONS) at that time, and local authority housing plans which include proposed areas of development. The Water Resources Planning Guideline requires WRSE to base its plan on the housing plan levels of growth, but we presented a wide range of scenarios in our draft regional plan as we know the future is uncertain and we need to be able to adapt to a range of potential futures.
- 7.2. The draft regional plan minimum growth scenario reflected the lowest ONS projections, while the maximum growth scenario reflected future projected levels of housing need. These were included so the draft regional plan was stress tested against a wide range of future growth scenarios. We also included a scenario that included a large area of development between Oxford and Cambridge (OxCam). In that scenario there is projected migration out of the WRSE area. We used these different population projections to forecast how much demand for water could change by 2075, with an overall increase in demand in all but one scenario.

Summary of issues raised in responses

Regulatory and other Government responses

- 7.3. The EA stated that WRSE should take account of changes to the Government's approach in relation to targets for housebuilding as it developed its final plan. Ofwat noted that WRSE had briefly described the impact of the Covid pandemic on demand with household demand increasing by 10% and non-household demand falling by around 25%. It requested that in its final plan, WRSE should clearly explain why it assumed

more recent data is unlikely to change long term trends. Ofwat stated that WRSE should run sensitivity analysis of the combined impact of hybrid ways of working and dry weather not experienced in recent actual data, and the impact this may have on the dry year uplift.

Other organisational responses

- 7.4. A number of local planning authorities expressly supported WRSE plans to accommodate planned levels of future housing growth in its population forecasts, identifying the importance of ensuring that water resources planning and local plans (including infrastructure delivery plans) were aligned. Some expressed concern that the projections that WRSE had prepared either under or over stated the expected levels of growth that would be experienced in the future. Others wanted reassurance that projections accounted for planned employment growth, not just housing.
- 7.5. Local authorities opposed to the SESRO Reservoir proposal considered that the population forecasts were over estimated and that the information should be updated based on ONS 2021 Census data. Oxfordshire County Council provided detailed comments on the population and household growth forecasts and the resultant water need identified by WRSE. The County Council considered that it was unacceptable for WRSE, regulators and water companies to use what it considered were outdated population projections as the basis for the draft regional plan. It stated that using the 2022 ONS projections (based on the 2021 census), it had calculated that achieving the population for the preferred pathway modelled in the draft regional plan would require the entirety of the predicted population growth for the whole of England to 2050 to be located in the South East, and on top of that for over half a million people to move in from other regions.
- 7.6. The Group Against Reservoir Development (GARD) stated that in its opinion, the population forecasting method used in the WRSE draft plan was not fit for purpose and instead proposed what it considered to be a simpler and more realistic process to and meet the needs and approval of a wider range of stakeholders (including regulators). Under its approach, the latest ONS Principal Projection would be used to determine expected overall population

growth for the region and as the basis for strategic level planning. Then, local plan housing data would be used to determine the location and timing of future 'hotspots', allowing infrastructure plans to be finessed at the operational level. It considered that its process would comply with the requirement to use both local planning data and other data and would resolve complaints about over-inflated population projections. The Group Against Reservoir Development stated that its calculations showed that the WRSE population estimates are over-stated by 1,445,000 by 2050 and 2,303,000 by 2075. It calculated that at a 2050 PCC of about 115 l/head/day, that is equivalent to an over-forecast of the baseline deficit by 166 MI/d in 2050 and 265 MI/d by 2075.

7.7. CPRE also considered it very likely that the reported pathway considerably overestimated future population growth, highlighting considerable uncertainties in population projections arising from uncertain future migration patterns. Although it recognised that choosing a lower growth scenario may go against guidance, it considered it possible to put together robust arguments for such a decision, and noted that even taking the median population projection (which it stated would still involve attracting 2 million people into the region) would halve the future demand from 600 to 300 MI/d.

7.8. Waterwise stated it believed the approach taken to assess future household water needs is robust and thorough.

Individual responses

7.9. Concerns were expressed in individual responses, largely focused on opposition to the SESRO Reservoir proposal, that population projections adopted by WRSE were too high (and thus the need for water resources was too high) and failed to address a perception that the UK's population would start falling in 10-15 years' time. The potential for population forecasts to change over time was specifically highlighted by respondents. Another focus of comments was to state that the UK population would be decreasing by 2075, and so demand should be falling not rising, calling into question the need for the SESRO Reservoir proposal.

WRSE's work since the draft regional plan was published

- 7.10. As explained in more detail in paragraphs 7.19 to 7.26 below, WRSE has updated data and forecasts to feed into its investment modelling, comprising the following:
- updated household population and growth forecasts from Edge Analytics, incorporating updated census and ONS data, and planning authority housing forecasts, which was not available for incorporation into the draft regional plan modelling.
 - updating demand forecasts to reflect the updated population and growth forecasts, and updating the base year for forecasts in line with Ofwat guidance for PR24 Business Plans (issued in December 2022).
 - updated forecasts to take account of Covid and post Covid impacts on water use in demand forecasts.
 - Updated non household demand forecast from Artesia, based on updated water company annual return data and updated base year.

WRSE's response to the issues raised

- 7.11. The population and household growth forecasts were a focus of many comments on the draft regional plan, with organisations and individuals opposed to large scale proposals, including the SESRO Reservoir proposal, commenting that in their view the scale of growth had been overstated and that less water would be needed in future than WRSE was predicting. WRSE was criticised for planning for the 'worst case'.
- 7.12. The Water Resources Planning Guideline requires regions and water companies to plan on the basis of a 'housing growth' forecast, ensuring that sufficient water resources are secured to meet forecast increase household demand. There was significant support expressed for ensuring that the regional plan delivers sufficient new water resources in line with future growth taking place. This requires extensive and long-term forecasts and long-term plans to ensure that this will be delivered.

- 7.13. WRSE's population and household forecasts for the draft regional plan were produced by Edge Analytics, an external consultancy that is specialist in this type of forecasting. Their work produced some 23 regional forecasts, with 5 of these (selected by WRSE to cover the range of potential forecasts) selected and used by WRSE as the basis for the draft regional plan. WRSE considers that it has developed and used an appropriate set of forecasts as a robust basis for its regional planning. These cover the wide range of potential levels of population and household growth that the region could reasonably experience, with the plan capable of adapting over time to levels of growth that are actually experienced.
- 7.14. Some respondents criticised the reported pathway (Situation 4) presented in the draft regional plan, and the level of growth associated with it, considering that the level of growth was too high. As explained in the draft regional plan, this reported pathway is a single potential future – it is not more or less likely than the other 8 adaptive plan pathways that WRSE has identified, but represents the 'reported pathway' which regulators require regional groups such as WRSE to identify in their regional plans. However, WRSE's draft regional plan covers all of the 9 adaptive plan pathways, from the lowest to the highest levels of growth, ensuring that the water resources proposals are able to and can adapt to the levels of future growth experienced.
- 7.15. Whilst WRSE was criticised by some objectors for planning for the 'worst case', in fact it has planned for the best case, worst case and others in between, ensuring the plan is adaptive to the scale of eventual growth that takes place. The purpose of water resources planning is to ensure a secure supply of water, recognising the significant potential consequences for customers and the environment of not planning properly.
- 7.16. The range of future scenarios considered in the draft regional plan includes a very low forecast of growth. Those expressing opposition to WRSE's proposals seem to accept that this low level of growth lies outside of the guidance which WRSE is required to follow, but wish WRSE to adopt a single non-compliant growth forecast nevertheless. This would not comply with the

water resources planning guidance that WRSE and the six member companies must follow, and this approach is very unlikely to be supported by the Environment Agency or Ofwat.

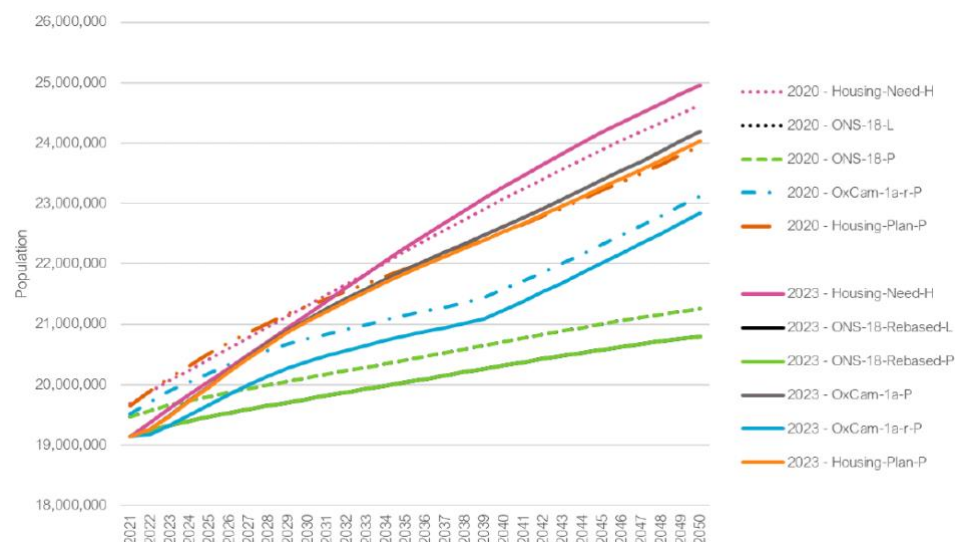
- 7.17. As noted in paragraph 7.10 above, and explained in paragraphs 7.19-7.26 below, WRSE has updated forecasts since the draft regional plan, taking account of updated population and demand forecasts and also updated base data from our member companies. Population and household numbers will be kept under review through WRMP Annual Reviews, and any further changes to forecasts will be reflected in future WRSE/WRMP plan cycles. WRSE accepts and acknowledges that there will be changes to future growth plans as LPAs prepare and update their local plans, and as Government updated population projections are published over time. WRSE considers the scale of future changes falls within the range of forecasts that WRSE has considered.
- 7.18. Whilst WRSE recognises that there are respondents who disagree with the basis for the forecasts that have been developed, WRSE remains confident in the robustness of the technical work it has undertaken. The technical work and regional plan is compliant with the guidelines that regulators have set for water resources planning, and demonstrates an understanding through testing of how different growth forecast impact on the need for water and selection of options. WRSE has responded to criticisms of the incorporation of the forecasts into the adaptive planning approach in Section 12 of this document. This identifies that the lower forecasts preferred by some opposed to the regional plan (and the SESRO reservoir proposal in particular) are lower than our regulators require us to plan for, and so are not a basis on which a regional plan that accords with guidance and regulators requirements can be prepared.

How the revised draft regional plan has changed in response

- 7.19. Since the draft regional plan was published, WRSE has updated its population and demand forecasts for the revised draft regional plan.

- 7.20. WRSE commissioned Edge Analytics to update the forecasts utilising the most recent available ONS population and household data, and updated housing growth information from local planning authorities. The same 5 population and growth scenarios have been used for the regional plan, but with the updated data and forecasts within them.
- 7.21. The main drivers of the differences between the draft regional plan and revised draft regional plan forecasts are different base years and changes to the housing growth evidence informing the Housing-Need and Housing-Plan scenarios. Other methodological/data changes have also had an impact on the forecast outcomes but to a lesser extent.
- 7.22. The latest forecasts used the ONS 2021 mid-year population estimates (underpinned by 2021 Census data), whereas the draft plan forecasts were based on 2018 estimates. These forecasts show differences in both the total population and the underlying structure of the population (its age and sex) when compared to the 2018 forecasts.
- 7.23. In relation to housing growth, Edge Analytics devised its 'Housing Need' and 'Housing Plan' forecasts on information from local planning authorities. For the revised draft plan these forecasts use information updated in Jan-Feb 2023, whereas the draft plan forecasts were based on information updated in early 2020.
- 7.24. The chart below summarises the effect of the updated population forecasts, with the dotted lines being the 2020 forecasts used as the basis for the draft regional plan, and the solid lines being the updated 2023 forecasts for the revised draft regional plan. Edge Analytics updated forecast information is available in the [WRSE document library](#).
- 7.25. WRSE and our member companies also commissioned Artesia to prepare updates to the non-household demand forecasts used in the draft regional plan, updating them to take account of new data and information.

- 7.26. All of the updated forecasts and demand information is set out within Section 4 of the revised draft regional plan.



8. Climate change

What did the draft Regional Plan propose

- 8.1. The draft regional plan described how climate change will impact how much water is available from our existing water sources. This is because it will result in more frequent and severe droughts and more extreme flooding events. WRSE took the most recent climate change projections produced by The Met Office and assessed how much water will be available in normal years and during droughts.
- 8.2. The draft regional plan identified how much more water WRSE and the water companies will need to find by 2075 to replace the supplies it expects to lose as a result of climate change, ranging from 35 MI/d under low climate change scenario, 125 MI/d under the median scenario, and 240 MI/d under the high climate change scenario. The draft regional plan is adaptive to this range of climate change scenarios.
- 8.3. The climate change work also helped WRSE and the water companies identify which sources are most at risk from climate change. These are typically river sources that are less dependent on groundwater and more reliant on rainfall to maintain flows.

Summary of issues raised in responses

Other organisational responses

- 8.4. A number of local authorities indicated that greater action was required as a result of the climate emergency being faced, with further investment in leakage reduction and demand management required, as well as the selection of zero or low carbon options in the regional plan in preference to carbon intensive projects such as new reservoirs (including the SESRO Reservoir proposal) or regional transfers. Others recognised the potential for low or zero carbon energy to be utilised to reduce the impact of new

resource developments including desalination or water recycling, and planned water transfers.

- 8.5. Some local authorities commented on the implications of climate change for water resources, noting that the impact of climate change cannot be predicted precisely and that there was a range of effects which must be taken into account, noting that climate projections and UK Climate Risk Assessments are updated on a 5-year basis. The impacts of climate change on water resources were recognised as being great, with long periods of drought emptying reservoirs while demand generally increases. It was also noted by respondents that the impact of abstraction of groundwater can severely damage further the natural environment already affected by climate change, making this water resource less acceptable.
- 8.6. Oxfordshire County Council considered that the plan failed to factor in the possibility of severe disturbances to weather patterns before 2040, commenting that it was already seeing 1000+ year events regularly across the world, and that the critical resilience test would be dealing with prolonged extreme events such as a sequence of exceptionally dry winters followed by extreme droughts and hot summers. The Council also commented that there was no sign that the draft plan had considered what it believed would be the appropriate prioritisation of climate-resilient schemes (especially recycling, water transfers that include recycling / connection to existing reservoirs, aquifer management, and, to a lesser extent, given its high power demands and environmental impacts, desalination). It saw this as a fundamental flaw and regarded what it termed the de facto 'bet' on reservoirs delivering in the late 2030s/ 2040s as complacent, short-sighted, and backward-looking.
- 8.7. CPRE stated that Ofwat's climate change requirement was based on the highest IPCC emission scenario tested, and that was now regarded as unrealistically high. It considered that the 2015 Paris agreement and national commitments made at the Glasgow COP26 illustrated that the high climate change scenario used by WRSE is unrealistic. Whilst WRSE took the highest

climate change scenario as their 'reported' pathway, CPRE's view was to take the median – leading to a 125 Ml/day deficit instead of 240 Ml/day.

- 8.8. The South East Rivers Trust noted that climate change prediction methodology was constantly evolving, with higher resolution models showing new patterns emerging. It considered that WRSE should be watching these developments closely, and continually updating the climate projections used in scenario planning.

Individual responses

- 8.9. Some respondents were surprised at the relative scale of the different drivers of future water resources need, noting that population growth was expected, but that climate change was less of a factor than was expected. Other respondents stated that the draft regional plan did not consider the full effects of climate change, including that wetter periods would recharge aquifers and existing storage.

WRSE's work since the draft regional plan was published

- 8.10. WRSE's approach to the incorporation of climate change factors within the regional plan has not changed since the draft regional plan. WRSE has however included updated information from companies (e.g. in updated demand forecasts) for the revised draft regional plan.

WRSE's response to the issues raised

- 8.11. Climate change impacts are one of the key challenges facing and influencing the draft regional plan proposals, both in terms of the impacts on existing and potential future sources of water supply, and in terms of changing consumer behaviours, building design, and water use by household and non-household customers as a result. When and how much water is available is changing too, with wetter winters (less need for water as low demand) and drier summers (less water available and higher demand). Options including reservoirs and below ground storage solutions can be resilient to these

conditions, with the benefit of additional storage being able to better utilise the wetter periods and mitigate the drier periods.

- 8.12. Respondents to the draft regional plan consultation challenged WRSE around how the supply forecast has taken account of potentially wetter winters, and what effect this could have on available supplies. WRSE has consistently and robustly assessed all existing sources and new options, and our assessments of deployable outputs do take account of climate change impacts (both positive and negative). The forecasts in the plan already take account of the climate change impacts of wetter winters and other climate change impacts, in accordance with the Water Resources Planning Guideline (WRPG) – the Government guidance governing the preparation of water resources plans.
- 8.13. To incorporate climate change factors into the regional plan, WRSE looked at 28 different climate change scenarios, all based on the UKCIP18 data. For the draft regional plan it selected the median, 75th, 50th and 25th percentiles as the basis for low, median and high climate change scenarios used in the WRSE modelling, consistent with the approach required by the WRPG and Ofwat.
- 8.14. WRSE has considered the future forecasts if climate change impacts were low to high for all pathways of the adaptive plan. The highest scenarios result in a need for more and not less new resource developments. The positive effect of climate change (more water) is already included in the forecasts but significantly outweighed by the negative effects (less water). Objectors also argued that greater extremes will be seen in first few years of plan period than WRSE is anticipating, however WRSE has not seen any evidence to support this position. Over time, the current frequency of extreme events will change, so that an event that is currently 1:100 or 1:200 will be more frequent in the future. WRSE's stochastic modelling has enabled these more extreme weather patterns to be modelled and understood. Future plans will require re-consideration/re-categorisation of what a severe or extreme event is.

- 8.15. WRSE has also considered the climate change effects on individual options as part of the environmental assessments it has undertaken.

How the revised draft regional plan has changed in response

- 8.16. WRSE's approach to the incorporation of climate change factors within the regional plan has not changed since the draft regional plan. WRSE's approach considers a range of potential climate change impacts across the adaptive plan scenarios.
- 8.17. Future cycles of regional plans and WRMPs will consider updated UKCIP data when it becomes available, and updated climate change impacts will be calculated as part of those future plans.

9. Drought resilience

What did the draft Regional Plan propose

- 9.1. The draft regional plan explained that climate change is likely to make droughts more severe and frequent. The National Infrastructure Strategy produced by the Government in 2019, set the requirement for water companies to make their water supplies more resilient to severe droughts by 2040. This means water companies should only need to use such emergency measures once in every 500 years on average. This requirement has been taken forward in the Water Resources Planning Guideline which WRSE must comply with for its regional plan.
- 9.2. During droughts, water companies can apply for drought orders and drought permits from the Environment Agency that allow them to continue abstracting water from the environment, outside their normal licence conditions. This helps maintain supplies to customers. The WRSE water companies are proposing to stop using these drought orders and drought permits after 2040, during less severe droughts to help protect the environment. The draft regional plan includes the additional water needed to replace them.
- 9.3. In total, WRSE calculated that an additional 465 million litres of water is needed by 2040 to make the region's water supplies more resilient to a one in 500 year drought. This includes 300 million litres of water needed instead of existing supplies, as these would be severely constrained in these extreme droughts. A further 165 million litres of water currently provided through environmental drought orders and drought permits would also need to be replaced. The draft regional plan continued to assume that Temporary Use Bans (TUBs) and Non-Essential Use Bans (NEUBs) will be used in line with the levels of service set out in each water company's Drought Plan.

Summary of issues raised in responses

Regulatory and other Government responses

- 9.4. The EA considered that it was unclear how the move to 1:500 drought resilience (by 2040) and the impact on deployable output had been included in the regional plan and water company draft WRMPs. It stated that it was important that the selected year for delivering this was justified and evidenced transparently as best value. This level of resilience should be included in baseline deployable output from the beginning of the planning period, with any reductions to levels of service included as options in the earlier years of the planning horizon. It stated this would enable a consistent representation of available baseline supplies at 1:500 DYAA scenario, and enable quantification of the benefit of level of service reduction. The EA stated that WRSE had previously raised concerns with how actual level of service is represented before 2040, and WRSE should ensure that this was satisfactorily explained for stakeholder understanding in the regional plan.
- 9.5. Ofwat noted that WRSE had carried out sensitivity testing on the impacts of changing the date at which it reaches 1 in 500 year drought resilience, with WRSE estimating costs increased by approximately £300m getting to this level of resilience 5 years early but could decrease by £740m and £796m when it was delayed by 5 and 10 years respectively. Ofwat considered that whilst this analysis was welcomed, WRSE needed to include explanation in its final plan. This should include how these changes compared with the benefits of increased drought resilience, the effect maintaining the use of drought orders and permits would have on the analysis, what the overall impact on the best value plan is, and based on the impact on costs benefits (primary and wider value) why the date chosen was optimal (i.e. a conclusion of the sensitivity analysis).

Other organisational responses

- 9.6. Oxfordshire County Council noted the government target for a 1:500-year resilience level by 2040. Given the acceleration of extreme weather events

from climate change (see below), it stated it was extremely concerned about the wisdom of plans that took this length of time to develop resilience. It found it irrational to contend that a vital component of resilience proposed in these plans was building a reservoir in a seriously water stressed area and hoping reliably to fill it from within that same seriously water-stressed catchment. OCC stated “We fail to understand how such a scheme passes ‘best value’, never mind ‘least regret’ calculations when set against increased recycling or transfers from out of area.”

- 9.7. RSPB and some other environmental organisations welcomed the commitment to achieving 1:500 year resilience by 2040, although they would have preferred this being achieved earlier. Some welcomed the earlier cessation of drought permits and orders (see Section 17 of this Consultation Response document) and the additional resilience that achieving 1 in 500 drought resilience would bring to the region.
- 9.8. A number of opponents to the SESRO Reservoir proposal commented that WRSE’s proposal effectively delayed drought resilience to 2040 through reliance on the SESRO Reservoir proposal, noting that they considered it could be achieved earlier (2034-35) if options such as the STT transfer proposal were selected instead.

Individual responses

- 9.9. Some respondents, concerned at the environmental impact of new supply options included in the draft regional plan (including the Hampshire Water Transfer and Water Recycling Project) did not support the proposed change in the frequency of use of emergency drought orders. They were concerned that the change was driving the selection of unsustainable and expensive new water source solutions such as water recycling. Respondents commented that having a realistic threat of emergency drought orders was useful in educating customers to the value of water, and considered that customers should not have to pay for infrastructure solutions which are only required to operate in a severe drought, which might not happen during the lifetime of that infrastructure.

WRSE’s work since the draft regional plan was published

- 9.10. For the draft regional plan, WRSE undertook sensitivity and scenario testing around the date for achieving 1 in 500 drought resilience. WRSE has repeated this sensitivity and scenario testing for the revised draft plan, to confirm that achieving this level of drought resilience by 2040 remains the optimum date for the revised draft plan.

WRSE’s response to the issues raised

- 9.11. The draft regional plan fixed the timing for achieving 1 in 500 year drought resilience at 2039/40. The 1 in 500-year requirement is derived from EA policy and the WRPg requires WRSE and the water companies to achieve that level of drought resilience through the current cycle of plan preparation.
- 9.12. Currently in the South East, there are different resilience standards being met for different companies. WRSE’s approach brings the whole region to a consistent 1 in 500 year resilience by 2039/40 in line with policy guidance, achieving social equality across the region for customers.
- 9.13. Some respondents asked for the 1 in 500 year drought resilience to be achieved earlier in the planning period. The analysis undertaken by WRSE of the effects of achieving this level of resilience at different dates, as set out in Section 14 of Technical Annex 2 of the draft regional plan, showed that 2039/40 represents the optimum solution. Seeking to achieve this faster is significantly more expensive, and has higher risks of non-delivery.
- 9.14. The analysis presented in the draft regional plan showed that the cost of the plan increases the earlier the drought resilience standard of 1:500 is met. Achieving 1 in 500 resilience in 2034/35 increased the average discounted cost of the draft regional plan by £303m compared with the 2039/40 timeframe adopted for the draft regional plan. Conversely, if the implementation of the drought resilience standard was delayed to 2049/50 then the average cost of the plan reduced by £796m, however the cost to

society, the economy and the environment would be far greater should there be a severe drought in the meantime and supplies to customers in the South East fail.

- 9.15. Each of our member companies prepares a drought plan, and as part of the preparation of those plans, analysis identifies that level 4 water restrictions results in significant economic and social impacts on customers and the wider economy. The need to protect against this level of impacts, through achieving higher levels of drought resilience, does need to be balanced with the costs and affordability to customers of achieving this, and the level of certainty and delivery risks that arise. The 2039/40 date is considered to be the most appropriate balance.
- 9.16. The likelihood of running out of water in the near future, before undertaking significant improvement to drought resilience in 2040 is directly related to the challenges faced by the region. The demand management and new water resource developments that the regional plan proposes, to meet the combined future challenges the region is facing, will all contribute towards reducing the risks to customer supply in a severe drought. The non-drought resilience related challenges faced by the region includes working towards and achieving environmental ambition by 2050, with risks including meeting licence capping and existing WINEP commitments by 2035. Risks also relate to the levels of population and housing growth (from changes to local authority plans) and climate change. All of these risks will be significantly reduced as the region achieves the 1:500 year drought resilience.
- 9.17. As noted above, WRSE undertook sensitivity and scenario testing around the date for achieving 1 in 500 drought resilience for the draft regional plan, confirming that 2040 was the optimum date. Ofwat and the EA commented on this in their draft plan consultation responses. WRSE has repeated this sensitivity and scenario testing for the revised draft plan. This has confirmed that achieving this level of drought resilience by 2040 remains the optimum date for the revised draft plan.

How the revised draft regional plan has changed in response

- 9.18. WRSE's approach to meet the Government's required 1 in 500 year drought resilience by 2040 is unchanged in the revised draft regional plan.
- 9.19. The amount of additional water resources required to achieve this has changed (as a result of the updated demand forecasts in the revised draft regional plan) and Section 4 of the revised draft plan sets out the updated drought resilience water resources need to be met.

10. Environmental forecast and environmental ambition

What did the draft Regional Plan propose

- 10.1. The draft regional plan explained how improving the environment of South East England is a priority for the regional plan, helping to deliver the Government's ambition to achieve clean and plentiful water by improving at least three-quarters of our waters to as close to their natural state as is practicable. Abstraction, the process of taking water from the environment, is one of many things that can have an impact on the health of our waters. It can affect river flows, wetlands and ecology.
- 10.2. WRSE explained how water companies are already reducing how much water they take from some of their most sensitive water sources to prevent damage and help improve them, and that by 2030, they will have left more than 400 million litres of additional water in the environment each day. Further reductions have been committed to through the current Water Industry National Environment Programme (WINEP) up to 2035, and these are incorporated into the draft regional plan proposals. The Environment Agency is also introducing caps on some abstraction licences over the period to 2035, which will reduce how much water can be taken from some existing water company sources, and these are also incorporated into the draft regional plan proposals.
- 10.3. Over the longer-term, water companies may need to reduce how much water they take from other sources to help them adapt to climate change and ensure the environment is protected. The scale, pace and location of future abstraction reduction is being investigated by the water companies alongside their environmental regulators. WRSE worked with them to develop three long-term abstraction reduction scenarios to help understand how much water could need to be left in the environment in the future and

where this is needed. The three scenarios have been informed by and incorporate work carried out by the Environment Agency which provided indicative forecasts for future abstraction reductions to support environmental policy outcomes. The Environment Agency forecast, referred to as 'BAU+', is the minimum level regulators expect water companies to plan for through their WRMPs. The Environment Agency's 'Enhance' forecast goes further, with additional long-term requirements for protected areas, including chalk streams.

- 10.4. The draft regional plan used the Environment Agency's indicative scenarios together with investigations and assessments completed by the water companies to develop the three environmental scenarios included in the draft regional plan. These identified a need for an additional 510 MI/d by 2075 under the low scenario, 835 MI/d under the medium scenario, and 1,360 MI/d under the high scenario. WRSE's high abstraction reduction scenario in the draft regional plan met the expected level of abstraction reduction set by regulators. The draft regional plan's reported pathway adopted the low scenario to 2040, then the high scenario. Although this is known in the regional plan as the 'low' environmental ambition scenario, this tackles the known highest priority sites and abstractions first.

Summary of issues raised in responses

Regulatory and other Government responses

- 10.5. The EA welcomed WRSE's positive engagement with it on the environmental destination to further refine these scenarios for its best value plan. However, it recommended that WRSE increased the pace of delivery of the environmental destination and provided greater clarity and justification for the selected level of ambition. The EA noted that WRSE's decision point for environmental destination is in 2035, with the timing to allow for further investigations to confirm the needs of the environment and therefore which pathway to branch to by 2040. The EA considered that by delaying the decision point until 2035, this potentially delayed delivery of some environmental improvements by 5 years, which may not align with statutory requirements.

- 10.6. The EA advised WRSE to clearly set out the difference between achieving the legal minimum requirements against the reported pathway environmental destination scenario in terms of options and costs, particularly if this impacted decisions being made in the next 5-10 years, so that any differences were clear to regulators and stakeholders. The EA noted that it was important that the longer-term elements of the Environmental Destination were not confused with the “must do” actions under current legislation. It further noted that planning to meet future impacts of climate change or possible future changes to environmental legislation were a future requirement, which may be appropriate to leave until later in the planning period based on predictions for when changes would be required. However, any current issues that need resolution under current legislation should be resolved as soon as practicable. It stated that most of the abstraction reductions required through the environmental destination scenarios are “must do” actions under current legislation. In this context, it commented that many of the strategic solutions would be needed to offset abstraction reductions and should be low regret investments required to meet those obligations.
- 10.7. Ofwat noted that WRSE continued to propose deep reductions in abstraction over the long term, and that these were the biggest drivers of investment in the draft regional plan, despite WRSE stopping short of including the highest 'enhanced' scenario. It recognised that WRSE was proposing an extensive period of investigation and analysis to reduce the uncertainty associated with the nature, scale and timing of changes required, and that this meant that local evidence and understanding would not be available for some time. Ofwat asked WRSE to explain how its final plan considered the full range of potential abstraction changes (including the enhanced scenario) without unnecessarily bringing forward investment that may not be needed. It also requested that WRSE carefully scope its planned investigations to better understand the links between abstraction and the environment locally (for example, surface water and groundwater interactions) and the type of option that may be most beneficial in that context. Ofwat wanted to see local water management solutions thoroughly considered before companies selected replacement water from the list of feasible supply options. Ofwat stated that local water management solutions had the potential to be lower cost and to bring greater benefits than simply replacing the water lost with another supply option that was likely to bring its own environmental impacts.
- 10.8. Natural England commented that the minimum requirement for regional plans set by the Environment Agency in the WRP was scenario BAU+, and that the ‘high’ environmental scenario in the draft regional plan best aligns with the BAU+ environmental ambition, whilst also incorporating licence capping. However, Natural England stated it had previously expressed concerns that the BAU+ scenario does not adequately meet the needs of all sensitive environmental receptors protected under the Habitats Regulations and Wildlife and Countryside Act 1981 (as amended). It also considered it insufficient to meet targets in the Government’s 25 Year Environment Plan and the recently published Environmental Improvement Plan. Natural England considered that the BAU+ scenario (and therefore the environmental destination of the draft regional plan) was not sufficiently robust to ensure that non-European SSSI water-dependent habitats such as rivers, wetland SSIs and wetland priority habitats were protected. It stated that these sites and the wildlife they support continued to be vulnerable to over-abstraction, changes in water quality and water chemistry, and new water supply infrastructure. It asked WRSE to make sure that they are included in the regional plan environmental destination modelling.
- 10.9. In relation to WRSE’s adaptive planning, Natural England noted that the draft regional plan followed a ‘low’ environmental destination until 2040 and then only ‘high’ after that. Uncertainty around the required environmental ambition would be investigated (2025-3035), and then a final policy decision about environmental destination will be made, with delivery commencing in AMP10 (2035-40), ready to follow the ‘high environmental ambition’ pathway from 2040. It considered that the reported pathway in the regional plan did not reflect the timescales for delivery of nature recovery in the Environment Act (which sets a target to halt the decline in species abundance by 2030), and it was unclear whether the regional plan would support the more recent Environmental Improvement Plan (EIP) (which set a target to restore 75% of terrestrial and freshwater protected sites to favourable condition by 2042). Natural England acknowledged that EIP

targets were only published in January 2023 (after the draft regional plan publication) however it stated that WRSE now needed to plan for a faster pace of delivery to support progress towards these 2030 and 2042 targets for habitats and species. Natural England advised WRSE that where impacts from over-abstraction were already known, then action to resolve this should be progressed as soon as possible, even where investigations were not yet complete. Where uncertainty remained, it stated that WRSE should work with the relevant water companies to account for a worst-case scenario, and to demonstrate a pathway in the regional plan which would remove potentially damaging abstractions as quickly as possible once investigations had concluded. Natural England stated that investigations must be delivered at pace to allow the environmental destination policy to be finalised, where action is taken to satisfy regulatory requirements and demonstrate progress towards government targets for the natural environment.

Other organisational responses

- 10.10. Blueprint for Water welcomed that the 'reported pathway' mapped to abstraction reductions required in a 'high environmental improvement and climate change' scenario. However, it considered it unclear to what extent this scenario exceeded the minimum environmental requirements set out in the Environment Agency's BAU+ scenario. Blueprint for Water said that it expected to see a clearer commitment from WRSE to applying the most sensitive flow constraints on rivers with designated sites, principal salmon rivers and chalk streams. In addition, it stated it would be helpful to see pathways that were not compliant with minimum environmental standards marked as such, in order to aid customer understanding of the alternative scenarios. It requested that investigations were completed in the next five years, not ten, so that delivery could be the focus from 2030. Sussex Wildlife Trust and Revivel similarly supported higher levels of environmental ambition, and Friends of the Ems urged faster action if the environmental goals were to be met and there was to be significant return of water to the environment before it was irrecoverable

- 10.11. Hampshire and Isle of Wight Wildlife Trust stated one of its key priorities was to encourage the water companies within WRSE to vastly reduce their reliance on abstraction from chalk streams, especially the designated River Itchen SAC. It wanted to see accelerated plans to develop long-term, more sustainable solutions that rapidly reduced abstraction and eliminated the use of drought permits. It was pleased that some areas in the regional plan would be prioritised for abstraction reduction, in particular around Winchester where the plan stated an 80-100% reduction in abstraction under the high environmental ambition scenario. However, it would like to see this level of reduction across the entire River Itchen SAC catchment and other chalk streams across the region. Like other respondents it urged investigations to be completed in the next five years, not ten.
- 10.12. Herts and Middlesex Wildlife Trust also welcomed the commitment towards ending unsustainable abstraction across the WRSE region and commented in detail on the Lea and Stort Catchments, highlighting concerns that WRSEs proposals would result in a 'business as usual' scenario of groundwater abstraction across the Lea and Stort Catchments for the duration of AMP8, AMP9 and beyond. It noted that any abstraction reductions across those catchments (and thus flow recovery) would only be made possible through domestic water efficiency and leakage reductions in the near-term. It urged WRSE, OFWAT and DEFRA, to include the Chalk Streams First Proposal (CSF) within the best value draft regional plan.
- 10.13. South East Rivers Trust welcomed and supported the ambitious reductions in abstraction from the environment set out in the draft regional plan. However, it stated that as the plan stood, between now and 2035 the plan included planned abstraction licence reductions to meet the legal requirements of the Habitats Regulations and the Water Framework Directive, but beyond that, there was no certainty for further abstraction reductions to restore the environment. It understood that there may be a need for further investigations at some groundwater sources to understand the flow implications of different abstraction reduction scenarios, however the Trust considered that those investigations must not extend beyond the next investment period (2025-30), that decisions on further licence

reductions should be made by 2030, and actions taken to implement solutions as soon as possible, rather than being delayed to successive AMPs.

- 10.14. South East Rivers Trust also supported the recognition in the draft regional plan of the need to prioritise where abstraction should be reduced, with a focus on chalk streams and designated sites, and especially their headwaters and tributaries. It considered it important that plans recognised those streams that would have once been more clearly chalk streams, had they not been affected by historic abstraction, and lost some of their perennial chalk headwaters. It stated that these were still chalk streams and should be recognised as such and prioritised for restoration.
- 10.15. South East Rivers Trust recognised that environmental ambition was driving a very large part of the forecast deficit and the need for abstraction reductions (a total of 1360 MI/d by 2075), and that reductions of this scale would be subject to intense scrutiny and cost-benefit analysis set against ecological need. However, it noted that the WRSE total of 1360 MI/d included abstraction reductions from lower reaches of large rivers such as the Colne and Lea, which were highly modified, impounded water ways. It considered that the ecological case for abstraction reductions in the chalk stream tributaries was more urgent and would benefit those lower reaches. It highlighted analysis by the CaBA chalk stream restoration group and the Chalk Streams First coalition which suggested that the total abstraction reductions needed to achieve abstraction limited to no more than 10% of catchment recharge in WRSE's most iconic chalk streams / headwaters amounted to approximately 220 MI/d, a fraction of the WRSE total of 1360 MI/d. As such, the Trust considered there to be a need for greater clarity and engagement around the prioritisation of abstraction reductions, including a transparent and multi-sector forum in which decisions around prioritisation and abstraction reductions could be made. It would welcome an active role in this.
- 10.16. The Group Against Reservoir Development (GARD) considered that there was little transparency of the detail and justification for what it stated were colossal losses of deployable output arising from WRSE's "environmental

improvements". It noted that those required about £9 billion investment in replacement sources, and stated that WRSE's analysis showed that the costs of environmental improvements hugely exceeded the value of benefits. It provided detailed comments on abstraction reductions in the Colne and Lea Catchments, the Thames Valley supplies of Thames, Affinity, South East and Sutton & East Surrey water companies, and the Test and Itchen catchments. It considered that in view of the scale and costs of environmental improvements, no decisions should be taken on new resource schemes until the proper and transparent prioritisation of abstraction reductions had been completed, taking account of the costs of replacement sources and their environmental impacts.

- 10.17. There was general support from local authorities for planned levels of environmental ambition, although some authorities were concerned that either too much or not enough abstraction reduction was being planned for, with some citing specific examples of designated sites or watercourses under significant abstraction pressure. Authorities with chalk streams in their areas were supportive of their protection through reducing abstraction. Concerns were expressed at the planned pace of abstraction reduction, with some urging earlier action than WRSE was planning for in the draft regional plan.
- 10.18. Oxfordshire County Council agreed that there should be a focus on ecologically important chalk streams and reducing abstractions to enable those environments to be rehabilitated. It stated that it understood the priority to reduce abstractions from chalk streams, but the extent of that needed to be considered in the round with other environmental issues, for example the rest of the river network where there were discharges of raw sewage. It stated that it may be that the cost-benefit ratio for the 'high' versus 'medium' environmental pathway is very poor. The Council noted that there was a limit to the amount bill payers could be expected to fund and that using those funds to maximum impact was vital. The County Council considered that the regional plan should push back on any narrow focus and maximalist expectations from regulators and stated it would be interested in working together or convening interested parties to derive evidence-based recommendations to optimise the health of all rivers. It also judged that

there would be vast environmental benefits achieved through not discharging sewage into rivers.

- 10.19. RSPB welcomed the emphasis placed on improving the environment as part of the draft regional plan. It urged that the future needs of the environment were met first and then solutions found to meet the needs of other water users. Like other respondents, it noted that WRSE had used the Environment Agency's minimum level of future abstraction reductions (BAU+), rather than the Enhanced forecast, which would take into consideration long-term requirements for protection areas such as chalk streams. It considered that this low ambition was disappointing, and urged for greater ambition, to offer better protection to sensitive designations (e.g. the Arun Valley) and chalk streams in the region impacted by abstraction.
- 10.20. CPRE commented that there was considerable uncertainty in the new water resource required to return chalk streams to a pristine state, ranging from 520 Ml/day to 1360 Ml/day and noted that the WRSE preferred pathway chose the largest number, as with the population projection. CPRE noted WRSE's acknowledgement that investigations over the next 10 years would provide the evidence base for future reductions in abstraction, and considered that there were clearly many gaps in knowledge about the best way to restore chalk streams. It stated the environment cannot wait 10 years to answer those questions before embarking on a programme of restoration, and supported the Chalk Streams First and the Defra-sponsored 'Catchment Based Strategy' which recommended priority for streams where abstraction exceeded 10% of recharge.
- 10.21. Waterwise was concerned that the draft plan didn't consider the additional deficits from the regulators' Enhance scenario, instead renaming BAU+ (the minimum regulator expectation for the plan), as the High Scenario. It considered that there was no detail in the regional plan on what meeting the Enhance scenario would mean for the scale of the deficit, and meeting Enhance was not considered in the solutions proposed. It requested that the final plan needed a clearer justification as to why it was not possible.

Individual responses

- 10.22. Support was expressed for the level of abstraction reduction to be delivered, and the environmental benefits that this would deliver, although whereas some respondents wanted greater action sooner, others had concerns that the environmental impacts of new resource developments could be greater than the benefits from abstraction reduction. Other respondents supported planned abstraction reduction but felt 2050 was too late for this to be achieved, and that faster progress was needed.
- 10.23. Other respondents questioned why such a longer period (10 years) was needed for investigations and abstraction reductions to be agreed, when there was evidence of specific impacts in catchments already.
- 10.24. There was significant support for planned reduction in abstraction to deliver environmental benefits (particularly for chalk streams and other sensitive environments)

WRSE's work since the draft regional plan was published

- 10.25. Since the draft regional plan, WRSE and our member companies have worked to further develop the environmental ambition forecasts within the plan, including the prioritisation of catchments and sites, 'glidepaths' towards achieving outcomes, and the consideration of alternative profiles put forward by those commenting on the draft regional plan.

WRSE's response to the issues raised

- 10.26. WRSE's regional modelling has adopted the environmental ambition scenarios set out in the National Framework for Water Resources, taken into account Environment Agency licence capping proposals, and been informed by detailed work by the water companies and engagement with the Environment Agency and other stakeholders on the outputs.

- 10.27. In undertaking this work, regional and sub-regional differences in the outcomes of the environmental ambition scenarios were identified, with different scenarios resulting in the greatest level of abstraction reductions in different parts of the region. As a consequence, WRSE and our member companies mapped the outcomes across the region to identify a 'High', 'Medium' and 'Low' environmental ambition scenarios. These, together with a BAU+ scenario (retained as a reference scenario) were presented in the draft regional plan. In WRSE's adaptive planning approach, the Low environmental ambition scenario is followed to 2035, with the adaptive plan then branching into the Low, Medium and High scenarios across the nine adaptive plan pathways. This enabled a robust comparison and assessment of the alternative future water resource requirements under different environmental ambition scenarios to be identified and tested, and for the investment modelling to ensure that WRSE's draft regional plan proposals are capable of adapting to any of those potential futures.
- 10.28. The draft regional plan achieved the required levels of abstraction reduction set out in guidance, and the work undertaken by WRSE and our member companies tested scenarios requested by the Environment Agency, Ofwat, Natural England and other stakeholders. It is recognised that there is a divergence of views amongst the respondents to the draft regional plan consultation, with some respondents supporting the approach taken by WRSE, whereas others advocated higher or lower scenarios to be adopted, and/or for faster or slower progress towards achieving outcomes.
- 10.29. WRSE's work undertaken since the draft regional plan has further developed the environmental ambition forecasts, including prioritisation of catchments and sites, considered different 'glidepaths' towards achieving outcomes, and considered the comments submitted on the draft regional plan. This work is being undertaken in detail by our member companies for their respective WRMPs, and co-ordinated at a regional level by WRSE. The companies are specifically exploring how quickly abstraction reductions can be achieved without comprising their statutory duty to supply water to customers.
- 10.30. For the revised draft regional plan we updated the scenarios for the implementation of environmental ambition in liaison with the environmental regulators. The scenarios will still take place over numerous years, but some of the updated profiles accelerate the implementation programme to try and reduce abstractions quicker. All the environmental ambition profiles build in licence capping within the first ten years of the plan and the agreed reductions to sources. Following completion of this work, WRSE is proposing to continue to adopt the branch points for environmental ambition set out in the draft regional plan.
- 10.31. For the period 2025 to 2035, the environmental ambition scenarios that achieve proposed licence capping proposals, and WINEP commitments will be adopted in the adaptive plan – this is the Low environmental ambition scenario.
- 10.32. From 2035, the adaptive plan will adopt different environmental ambition scenarios for different adaptive plan pathways, the Low, Medium and High environmental ambition scenarios. Although these are the same scenarios adopted in the draft regional plan, the detailed proposals within the scenarios have been updated to reflect the additional work and engagement undertaken by WRSE and our member companies since the draft regional plan. This includes further consideration of local – catchment and WRZ - information to explore whether standardised Environmental Flow Indicator (EFI) rules, or other local models provide the most appropriate and robust basis for the identification of abstraction reductions. It also considers the inter-relationship between the levels of abstraction reduction and impacts on the future water resources supply-demand balance, and the options available to meet any challenges that arise as a result.
- 10.33. As a direct result of measures planned for delivery through the regional plan and individual WRMPs, freshwater abstractions for public water supply will be significantly reduced, both in the short and long term. This will deliver measurable environmental benefits from increased flow. Wider environmental benefits through environmental resilience and environmental

effects other than flow are also anticipated, and studies and investigations are continuing to explore how these can be captured and quantified.

engagement undertaken by WRSE and our member companies since the draft regional plan. The detailed information is set out in Section 4 of the revised draft regional plan.

- 10.34. This ongoing work will inform future regional plan and WRMP cycles, enabling future plan making and decision making to take account of updated source-level profiles and prioritisation, and fuller environmental benefits calculations. This will not change the ultimate environmental ambition, however the timing and prioritisation of abstraction reductions will be considered in light of this information, and the use of mitigation measures including catchment schemes. WRSE will utilise this updated information as part of the preparation of its 2029 regional plan to review the approach to achieving environmental ambition, including timing of decision or branch points and glidepaths towards achieving required outcomes. WRSE and our member companies are confident in the robustness of the work undertaken to date, as a firm basis for water resources planning for the current cycle of plans.

How the revised draft regional plan has changed in response

- 10.35. WRSE is proposing to continue to adopt the branch points for environmental ambition set out in the draft regional plan. WRSE and our member companies have worked closely with the EA to review and update detailed proposals for the revised draft regional plan.
- 10.36. For the period 2025 to 2035, the environmental ambition scenarios that achieve proposed licence capping proposals, and WINEP commitments will be adopted in the adaptive plan. Although this is known in the regional plan as the 'Low' environmental ambition scenario, this tackles the known highest priority sites and abstractions first.
- 10.37. From 2035, the revised draft regional plan will adopt different environmental ambition scenarios for different adaptive plan pathways, the Low, Medium and High environmental ambition scenarios. Although these are the same scenarios adopted in the draft regional plan, the detailed proposals within the scenarios have been updated to reflect the additional work and

11. Meeting the needs of other sectors

What did the draft Regional Plan propose

- 11.1. The draft regional plan described how water companies are not the only industry to abstract water from the environment. Many other organisations and individuals have abstraction licences for the water they need to produce their products and services. The Environment Agency's National Framework set the requirement for regional groups to consider the needs of other sectors in their regional plans.
- 11.2. The main water-using sectors in South East England are agriculture and horticulture, power generation and the paper production industry. Others include the leisure sector – golf courses and sports pitches – and the water used as part of the canal system. Working closely with partners in other sectors, WRSE assessed how much water will be used by the other sectors in 2025 and projected what their future demands could be. WRSE also assessed how droughts could impact on the demand for water by other sectors.
- 11.3. The draft regional plan identified that nearly 100 million litres per day of additional water could be needed by 2075, primarily by the power and paper industries, and agricultural and horticultural users (forecast demand is under average conditions). WRSE's analysis showed that other sectors have little spare capacity to cope with drought conditions but the additional requirements of the power and agricultural sectors could be met within their existing licence headroom, development of local storage solutions and becoming more efficient with how water is used. However, this assumed that existing licences remain unchanged, and if their licences are capped, in a similar way to public water supply licence capping being implemented by regulators, then they could require additional water from the regional plan. WRSE has committed to continuing to work with the agricultural, horticultural, and power sectors to look at alternative future strategies should licence headroom reduce, alongside environmental and economic regulators.

Summary of issues raised in responses

Regulatory and other Government responses

- 11.4. The EA considered that WRSE had made good progress to incorporate the needs of other sectors and undertaken appropriate engagement to inform assumptions on other water users in its draft plan. It noted that WRSE had added value to the National Framework non-PWS forecasts and refined those estimates with its own data. With non-public water supply representing 3% of water use in the region in 2025, the EA considered that WRSE had undertaken work that was appropriate to the scale of the challenge in the region for its first regional plan.
- 11.5. The EA noted that further work was required and that WRSE had identified a potential shortfall in supplies for non-public water supply abstractions in the future. However, it did not consider that WRSE had fully considered multi-sector benefits from public water supply options and the EA would like this to be considered in more depth for the final regional plan where relevant. The EA stated that it expected the next round of regional planning to show progress on the consideration of resilience needs of other sectors and identify clear options to address any water supply issues, subject to the appropriate funding arrangements being confirmed. This would include the consideration of licence changes to prevent deterioration on non-public water supply water users and its impact on water availability across the region.

Other organisational responses

- 11.6. The National Farmers Union (NFU) strongly supported WRSE's work with other sectors, stating that it had been involved in the development of the draft plan as a member of the Stakeholder Advisory Board, but that it considered there was a lack of relevant sectoral data for the region due to limitations on funding the collection and collation of data. It would welcome a second round of plans that formally funds regional groups and collection of data to support the plan. The NFU also stated that with regard to the agricultural and horticultural sector the current plan did not go far enough to

address the scale of the challenge. Whilst future demands of the agricultural and horticultural sector have been projected, this was based on projecting demand under average conditions, and it would like to see planning clearly address a range of future scenarios specific to the agricultural and horticultural sectors.

- 11.7. The Country Land and Business Association (CLA)'s response also supported WRSE's approach to long term water resources planning, but considered that future agricultural water needs and deficits needed to be modelled at a catchment scale and stated that WRSE was best placed to undertake this work. Farm reservoirs were explicitly supported as supply side options and CLA suggested that these should feature in the regional plan. The West Sussex Growers Association wanted the regional plan to better represent the needs of the horticulture sector with more agile abstraction regulation, particularly in the summer months and greater investment in infrastructure to collect, store and distribute water from areas of surplus to areas of scarcity. It highlighted the particular problems experienced by growers during the drought in 2022 and emphasised that the horticulture sector relies on summer abstraction and for some growers, building new reservoirs was not an option as their footprint had already been outgrown or there were planning implications. Similar comments were made of the importance of the water needs of the sector by the Horticultural Trades Association.
- 11.8. Energy UK stated that it fully supported the multi-sector approach to regional planning and thanked WRSE for the engagement to date, but considered that the issue of funding for multi-sector work on water needs to be resolved. It highlighted the importance of the plans to decarbonise the power sector by 2035 and the increased role of technologies such as carbon capture and storage and hydrogen production, which were likely to increase water demand to 2050 and beyond. The importance of long term security of water supply to power users was emphasised, and the perceived threats to existing and future power plants associated with licence capping was highlighted.

- 11.9. The Confederation of Paper Industries agreed that a group to work with the paper sector would be beneficial to understand needs now and in the future and whether such options as licence trading are viable.
- 11.10. Waterwise would like to see more detail on the commitment and plans of other sectors to manage their future demand carefully (i.e. to use water efficiently and to minimise wastage) building on the example of the paper industry looking at water reuse to meet part of its future needs. It believed that water company bill payers should not be sole funders of multi-billion pound supply side infrastructure for the benefit of private businesses such as the energy sector, which was forecasting a 10 fold increase in demand through to 2070. Waterwise was not convinced that the additional energy sector demand should be included in the core plan given the uncertainties, noting that other plans such as Water Resources North (WRnN) have not included it in its preferred plan at this stage, and suggested it should be considered as a sensitivity test to see how the core plan performed if that level of additional demand from the energy sector did materialise in the region. Waterwise stated that if that additional demand did emerge then the water supply solutions should be funded by the energy generating company.
- 11.11. RSPB stated it was essential that there was collaboration with other sectors so that the regional plan embeds accurate estimates of future needs, and that the needs of different sectors do not become opposed. It also encouraged greater commitments to reducing water demand in other sectors, and to ensure the future needs of the environment are prioritised. Blueprint for Water and the Wildlife Trusts also supported the multi-sector work and encouraged further work to better understand other sectors needs, co-funding of solutions and commitments to reduce demand and improve water efficiency in other sectors.
- 11.12. CCW stated it fully supported the aims of the National Framework and believed that planning more strategically and across sectors would ensure greater water resilience. It noted that it would be important that the costs of any joint ventures are appropriately funded, that all beneficiaries should contribute appropriately and this should be done transparently.

- 11.13. Some local authorities opposed to the SESRO Reservoir proposal stated that WRSE should work with other sectors to recognise their current and future water needs. However, these sectors may not require water of drinking water quality. They stated that water companies and the Government should work with other sectors to ensure that those who require water were doing all they could to reuse and recycle water within their sites using the technology available. The solution to meeting future water requirements of all users should come through the reuse and recycling of water by all users, not major infrastructure schemes such as reservoirs, that they considered have a harmful impact on the climate and environment.

Individual responses

- 11.14. Many respondents were supportive of WRSE's work with other sectors, with respondents recognising the importance of engaging with other sectors to ensure a more complete picture of water resources need than focusing on public water supplies alone. Specific support was given for engagement with industrial sectors, power, paper and agricultural users. The challenges and uncertainties of forecasting the needs of a wide range of other sectors over the lifetime of the plan was identified as a concern, with the need for regular reviews to take place. A number of respondents suggested extending the joint working to also include Lead Local Flood Authorities (LLFAs) and other bodies also working in the water sector, and broadening out to partnerships working on catchment management and nature based solutions. The importance of customer views was also highlighted in responses.
- 11.15. Some respondents were concerned that other sectors' needs will change over time and so there was a risk that infrastructure delivered to meet their needs now may not be required in the future. Others highlighted that water company customers don't want to pay through their bill for infrastructure to meet the needs of other sectors – they should fund this themselves.
- 11.16. Some of the comments by respondents expressed concerns that WRSE was seeking to meet the needs of other sectors in order to increase the scale of overall need, to benefit the water companies and their shareholders. Others considered that other sectors should meet their own needs, including

through promoting their own demand management measures, and that the water companies should prioritise their customers' needs above others. A number of respondents highlighted the challenges and uncertainties of forecasting the needs of a wide range of other sectors given the potential for significant industrial and energy change over the lifetime of the plan.

- 11.17. Many of the responses relating to the SESRO Reservoir proposal followed suggestions provided by the Group Against Reservoir Development including that WRSE needed to include other stakeholders at board level in the same way as other regions such as Water Resources East. They also stated that they believed that the solutions in the plan are designed to benefit water company shareholders rather than residents of the South East.

WRSE's work since the draft regional plan was published

- 11.18. WRSE's approach to the incorporation of the needs of other sectors within the regional plan has not changed since the draft regional plan.

WRSE's response to the issues raised

- 11.19. WRSE has worked closely with other sectors in preparing the regional plan and is committed to continuing its engagement through this and future plan cycles to better understand their future water resources needs and consider how those can be met alongside the other challenges facing the region. It recognises that for many sectors future water resource availability and forecasting needs is a new area of focus, and one for which there remains a need for further development of forecasting and projections of future needs. WRSE will be working closely with the Multi-Sector Advisory Group that it established in seeking to achieve this, and to reduce the level of uncertainties in other sector forecasts for subsequent regional plans.
- 11.20. As noted in some of the consultation responses, the scale of water use by other sectors is lower in the South East region (approximately 3% of demand) than in other regions, for example in the east of England (25% of

demand, rising to 40% at peak). WRSE's engagement and approach has reflected this. Water Resources East's (WRE's) governance structure is different from WRSE's as a result, something identified in responses by the Group Against Reservoir Development and its supporters. WRSE considers its approach to be robust and appropriate given the contribution of other sector demand as part of the overall challenges facing the South East region.

How the revised draft regional plan has changed in response

- 11.24. WRSE's approach to the incorporation of the needs of other sectors within the regional plan has not changed since the draft regional plan.

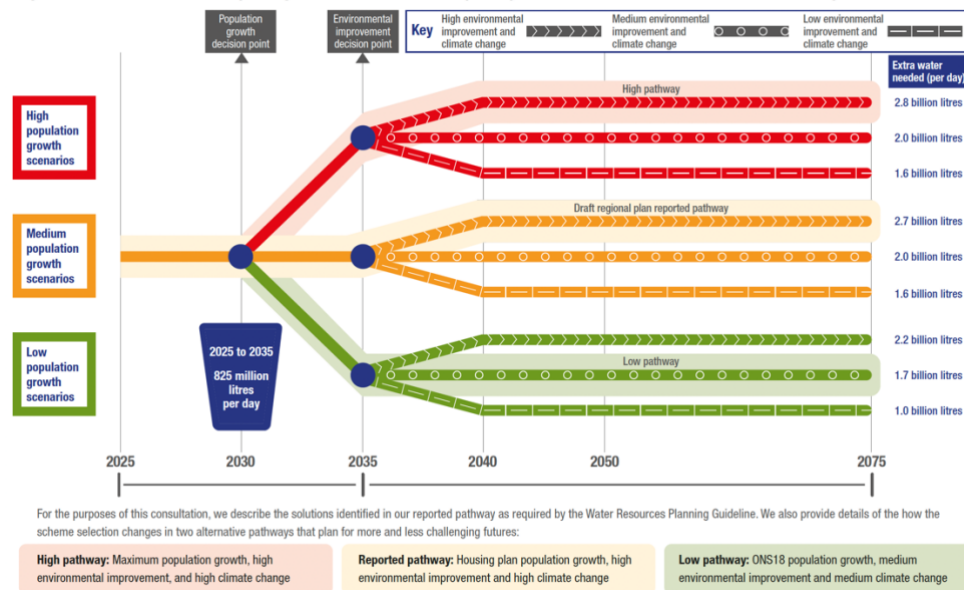
- 11.21. As stated in the draft regional plan, and recognised in responses, the EA's licence capping proposals could significantly affect the ability of other sectors to meet their future water resources needs in this way. WRSE will continue to work closely with the EA and other sectors to understand the potential implications arising from this, and to investigate and present updated information on this in its next regional plan. It recognises that if those licences are capped, this could significantly increase the levels of additional water needed from WRSE to meet other sector needs.
- 11.22. A number of respondents asked WRSE to challenge the needs of other sectors more, and to work with them and with Government to encourage water efficiency and water saving amongst organisations in those sectors. WRSE and the six water companies has already, and is continuing to engage with these sectors on water efficiency measures, both individually and collectively, and recognises that there is a driver for these organisations to improve their efficiency for both financial and environmental reasons.
- 11.23. There is also a need to engage with Government and with Ofwat on issues raised in some responses relating to the funding of water resources infrastructure through customer bills which either directly or indirectly benefit other sectors. Shared funding and delivery of new water resources infrastructure across sectors will need to be explored further in the future, with a clear role for Government in setting funding arrangements.

12. WRSE's long-term adaptive planning approach as a response to the challenge

What did the draft Regional Plan propose

- 12.1. The draft regional plan explained that whilst WRSE and the water companies must plan for the future, the further ahead we look the more uncertain the future is. To manage this uncertainty, WRSE has taken an adaptive planning approach to look ahead at a range of different futures we might face so we can develop a plan that can adapt to them all.
- 12.2. The draft regional plan described how WRSE used its projections to select nine alternative pathways in its adaptive plan. Each is assumed to be equally likely for planning purposes, however the regulatory guidance water companies must follow requires them to identify a single pathway on which to base the first 25 years of their WRMP. Situation 4 was selected by WRSE as the 'reported' pathway for the draft regional plan. Situation 4 was selected as it meets the WRPg growth forecast requirements, incorporates environmental ambition, and takes account of potential climate change impacts. WRSE reviewed the potential pathways with regulators and WRSE's Senior Leadership Team approved Situation 4 as being the most appropriate reported pathway for the plan.
- 12.3. This reported pathway complied with the Water Resources Planning Guideline produced by the Environment Agency, Ofwat and Natural Resources Wales, and was WRSE's best value way of meeting the regulatory and policy guidance, to:
- Meet population growth in-line with the local authority housing plans
 - Achieve the level of environmental improvement required by regulators (BAU+)
 - Plan for a high climate change scenario
 - Achieve one in 500 year drought resilience by 2040.

- 12.4. The nine pathways from the draft regional plan are illustrated in the figure below, with the reported pathway being pathway 4 (4th down from the top).



- 12.5. The regional plan will be updated every five years to inform the water companies' future WRMPs, and the draft regional plan identified two regionally significant decision points in the early years of the plan, which could trigger a change of pathway. The first decision point is associated with the level of population growth and the second with climate change and the level of abstraction reduction needed to improve the environment.
- 12.6. The decision points are aligned with the completion of the water companies WRMPs and their five-year business plans, so they include the investment needed for the pathway we are following. The Water Resources Planning Guideline requires companies to adopt a consistent adaptive planning approach in their draft WRMPs, so there is alignment across the region.

Summary of issues raised in responses

Regulatory and other Government responses

- 12.7. The EA welcomed WRSE's adaptive planning approach, setting out the planning challenges and the solutions required under a range of scenarios. It recognised that WRSE had carried out extensive engagement throughout the development of its draft regional plan and encouraged WRSE to continue this until the next regional plan. It commented that WRSE's efforts should be recognised as a significant positive step for the people and environment of South-East England.
- 12.8. The EA stated that the WRSE draft plan narrative clearly presented the supply demand challenge that the South East was facing over the next 50 years, and that WRSE's range of water needs for 2050 represented a plausible prediction of future needs and aligned well with the scale of reductions in the National Framework. It also considered that WRSE's plans showed it had considered how it could adapt to meet smaller reductions than the reported pathway.
- 12.9. Ofwat welcomed WRSE's shift, following its feedback, to include a branch point before 2040 (at 2035) and to base branch points on uncertainties and drivers of those uncertainties. However, it commented that sensitivity analysis had not been carried out on the timing of adaptive plan pathways to explore the trade-offs and justify the timings, and stated that WRSE should complete this for the final plan.
- 12.10. Ofwat also considered that WRSE's presentation of a 'least regrets' programme of investment in the first ten years of the draft regional plan did not align with the WRPg definition of low-regret investment because it was based on an extremely wide range of future scenarios which had a very low probability of materialising. It stated that the Ofwat common reference scenarios should be tested individually, however WRSE companies had tested more extreme scenarios for climate change and demand and combined these scenarios, which was driving requirements for investment.

Other organisational responses

- 12.11. Blueprint for Water welcomed WRSE changes to key branch and decision points in the adaptive plan, bringing them forward from 2040 and 2060 in the emerging plan, to 2030 and 2035 in the draft regional plan, meaning that decisions on the schemes needed to deliver environmental improvement would be taken, and those schemes delivered, much earlier.
- 12.12. The Consumer Council for Water (CCW) considered that the challenges had been clearly articulated, and the need for an adaptive planning approach was also explained well. It stated that the scale of the potential shortfall in available water supply was huge, and there was a need to work together to raise awareness of these challenges and the plans in place to address them, helping people understand the important part they could play by valuing water and using it more efficiently.
- 12.13. A number of individual organisations including Waterwise were supportive of WRSE's long term adaptive planning approach. Similarly, a number of local authorities supported WRSE's long term adaptive planning approach to ensure secure water supplies whatever the future scale of challenges being faced. Some emphasised the importance of collaboration as their areas were served by a number of water companies. Winchester City Council however, whilst considering the adaptive approach to be sensible and in line with the WRPg, stated that the draft regional plan did not clearly enough explain why population growth scenarios were the first decision point (2030), with environmental improvement and climate change following (2035). It considered this to be counterintuitive, given that it stated the environmental improvements and climate change scenarios had a far greater impact upon the extra water needed in 2075.
- 12.14. The CLA and NFU also supported the long term planning, with CLA considering it positive that a number of long term scenarios had been used, and that WRSE's reported pathway with high levels of future deficits would provide much needed resilience. However some opposed to the SESRO Reservoir proposal considered that the scale of need was overstated, and Oxfordshire County Council considered that all the adaptive pathways should

include lower figures, and the selected pathway in the plan should be closer to the lower end of the current estimates at 1 billion extra litres per day by the end of the plan period.

- 12.15. The Group Against Reservoir Development (GARD) stated that in its opinion WRSE had grossly over-estimated future water needs in the South East. In the areas that might be supplied by the SESRO Reservoir proposal, including Affinity Water's Central Region and Southern Water's Hampshire zone, it calculated that the needs in 2050 had been over-estimated by nearly 900 Ml/d, and provided detailed comments challenging the need for new water supplies. The Group Against Reservoir Development stated that the magnitude of over-estimation of future needs undermined the credibility of WRSE's plan. It stated that it should not be used as the basis for water company plans.
- 12.16. Energy UK noted that whilst WRSE's adaptive planning approach was designed to deal with uncertainty in population growth, the level of environmental improvement and climate change, it considered it was also appropriate for the power sector. Energy UK stated that no one yet knows when or where future power and hydrogen plant will be built, or who will build, own and operate these plants. Energy UK considered that the adaptive planning approach could take account of this and switch to an alternative plan in the future.
- 12.17. The Institute of Civil Engineers (ICE) considered that the adaptive planning approach was highly commendable, as it enabled WRSE to adapt and change to new information that simply could not have been accounted for at the outset. ICE recognised this as a move away from the 'one size fits all' approach, allowing the draft regional plan to change and adapt as new information became available, helping to solve the issue of imperfect information.
- 12.18. A number of organisations opposed to the SESRO Reservoir proposal commented that the plan was not truly adaptive as it was reliant on large strategic options selected early in the planning period, which then fixed the supply options into the plan.

Individual responses

- 12.19. Respondents supported WRSE's collaborative approach to the preparation of the draft regional plan, both within the South East region and with other regions, and the work undertaken by WRSE with other sectors. Those supporting the approach commented that the scale of the challenge was clearly set out in the draft regional plan, including the range of potential futures that were being faced, and the uncertainties that WRSE was seeking to accommodate and respond to through its adaptive planning.
- 12.20. Others highlighted the considerable variability in the forecast future challenges being faced and suggested that there was too much uncertainty to robustly plan over such a long period of time. They also stated that the draft regional plan was not adaptive given that the SESRO Reservoir proposal was advocated in the early part of the plan and so the plan would be fixed at that point.

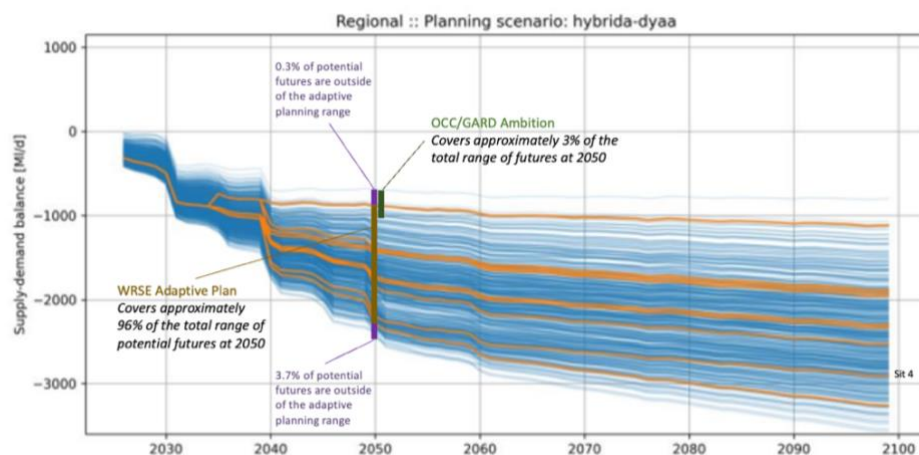
WRSE's work since the draft regional plan was published

- 12.21. WRSE's adaptive planning approach remains the same as in the draft regional plan.

WRSE's response to the issues raised

- 12.22. WRSE welcomes the support for the long term adaptive planning approach, and the recognition of the extensive and detailed work it has undertaken in preparing its plan. It welcomes the support expressed for the way the draft regional plan communicates the scale of the challenge facing the South East region, and recognises that there are considerable uncertainties in relation to future forecasts. However, it considers that the forecasts produced and the scenarios that have been developed for the regional plan as a result are valid and robust representations of the range of futures that the South East could experience.

- 12.23. WRSE also recognises that its regional plan will not meet the approval of all of its stakeholders, especially as there will be numerous new water resources options proposed within the plan in order to meet the scale of future challenges that the region is facing, and there will be opposition and concerns relating to a number of them. WRSE's approach to the identification and selection of options within the regional plan is objective and evidence based. WRSE remains committed to working with stakeholders through the regional planning process and through the six water companies WRMPs. This work, together with subsequent applications for planning and other consents will provide a means to ensure that the potential environmental and other impacts associated with new water resource options will be fully explored, with necessary mitigation measures secured as part of the schemes.
- 12.24. WRSE does not accept the suggestion by the Group Against Reservoir Development and its supporters that the emerging regional plan is based on worst case scenarios, nor that the need for new water resources options is inflated as a result. WRSE's forecasts and future scenarios have been undertaken based on the regulatory guidance and using the best available information. There is a wide range of alternative future scenarios that have been derived for assessment, reflecting the complexity and scale of the future challenges facing the South East. WRSE has also tested the sensitivity around the timing of decisions and branch points for the plan, as required by the WRPG and its regulators.
- 12.25. Providing such a wide range of potential futures is important given the long term nature of the regional plan, coupled with the ability through the adaptive planning approach of monitoring and reviewing actual performance over time as part of the 5 year planning cycles, and adapting plans where necessary as a result. The consequences of not planning ahead are huge for society, the economy and the environment.
- 12.26. WRSE has identified a full range of potential water resources options drawn from extensive technical work undertaken. All those options were made available during modelling for selection to meet future needs. No 'lower limit' for these options has been imposed, and so both larger and smaller options are available for selection as part of the investment modelling. It is therefore not the case that the regional plan is promoting or seeking to select a single set of solutions to meet the challenges being faced. Whilst WRSE is required to report a reported pathway for regulatory purposes, the regional plan has nine adaptive plan pathways which are considered to be equally likely. The regional plan's selected water resource options are capable of adapting to each of the pathways and respond to future decisions to be taken on growth, environmental ambition and climate change.
- 12.27. Each of the 9 pathways in the adaptive plan is formed from a combination of decisions, based on achieving different policy requirements and future forecast scenarios. Whilst the plan focuses on the 9 pathways, each is very similar to a number of other policy choice combinations. It is possible to group these combinations together to show how many of the potential combinations the adaptive plans 9 pathways are similar to, and thus the range of potential futures that are covered by the adaptive plan pathway we have selected. We present information to explain this in more detail in Section 6 of the revised draft regional plan.
- 12.28. The diagram overleaf shows, based on the draft regional plan modelling, the range of potential future challenges (blue lines), with the coverage of the adaptive plan (orange lines). It shows that:
- 96% of the potential combinations of futures at 2050 are covered by the 9 pathways in the adaptive plan.
 - 0.3% of the potential futures are lower than the range covered in the adaptive plan and 3.7% of the potential futures are higher than the range covered in the adaptive plan
 - The adaptive plan pathways cover the regulatory and policy requirements WRSE must achieve (in the central band) but the upper and lower pathways extend outside of this 'policy compliant' central band. Those pathways outside of this band are not policy compliant and are not supported by WRSE's regulators.



made on a least regrets basis. It is true that there are a number of large scale schemes, including SESRO, selected for development by 2040 in the draft regional plan, but these options need to be developed across a range of potential futures covered by the adaptive plan, to ensure that the region is able to meet the scale of future water resources challenges it is facing.

How the revised draft regional plan has changed in response

- 12.31. WRSE's adaptive planning approach remains the same as in the draft regional plan, albeit with updated data and forecast information incorporated within the regional investment modelling.
- 12.32. WRSE has updated the explanation of the adaptive planning approach in the revised draft regional plan, to more clearly articulate the approach and the means by which it is able to adapt to different potential futures being faced. Greater clarity and explanation of the wide range of futures that are covered by the nine adaptive plan pathways has also been set out in the revised draft regional plan.

- 12.29. In contrast, the combination of policy choices and population and environmental ambitions that those including the Group Against Reservoir Development (GARD), and Oxfordshire County Council and local authorities strongly opposed to the SESRO Reservoir proposal are focusing on, represent the lowest 3% of all potential futures. If the approach advocated by those organisations was adopted in the plan, this would ignore 97% of all potential future challenges identified and instead focus the plan on only considering very low future levels of need. These low levels of need do not comply with the WRPg, and are outside the range of potential futures that Ofwat requires companies to plan for in their Long Term Delivery Strategies (LTDS). As a consequence, the risks of adopting a low, non-compliant, future as the basis for the regional plan are significant.
- 12.30. WRSE also does not accept that the inclusion of a number of large scale water resources options in the regional plan prior to 2040 or 2050 means that the plan is not adaptive, as is argued by some respondents. WRSE's adaptive planning approach and the investment modelling that the plan is derived from, ensures that options selected in the plan are capable of adapting to the different potential futures that the region faces. The regional plan investment modelling has a single pathway for the first ten years of the plan, and the investment modelling ensures that investment decisions are

13. WRSE best value planning and decision making

What did the draft Regional Plan propose

- 13.1. The draft regional plan explained how WRSE had used best value planning and decision making to determine the proposals in its plan, in accordance with the requirements of the Water Resources Planning Guideline. Best value in this context means seeking to achieve wider environmental and societal benefits. Adopting a wider approach to decision making – and not making decisions just based on cost alone – enabled WRSE to identify a draft regional plan that it considered represented best value across a wide range of factors. As part of this work, WRSE has closely collaborated with other water companies and regions.
- 13.2. In the draft regional plan WRSE considered several additional, non-monetised criteria alongside cost and carbon cost to identify its best value plan. The criteria and metrics used to identify our best value plan were:
 - Options customers prefer (based on customer research undertaken for the draft regional plan)
 - Environmental benefits (based on our Strategic Environmental Assessment)
 - Environmental disbenefits (based on our Strategic Environmental Assessment)
 - Natural capital creation (based on our environmental assessment)
 - Biodiversity net-gain (based on our environmental assessment)
 - Resilience (based on our resilience framework assessment)
 - Spreading the cost across future generations (using the Government's Long-Term Discount Rate).
- 13.3. The best value plan creates more natural capital, improves biodiversity, has less overall impact on the environment and increases the resilience of our

water supplies when compared to the plan that just considers economic cost (least cost plan).

Summary of issues raised in responses

Regulatory and other Government responses

- 13.4. The EA recommended that WRSE should justify that the preferred plan was best value, clarifying the decision making used and detailing how adaptive planning would be applied, including monitoring, to mitigate risks. It stated that it expected the best value plan to include detail on the options, justification for selection of the options, sensitivity testing, and environmental assessment, and considered that this could be further improved so that the regional plan was a stand-alone plan from the companies' WRMPs. It also encouraged WRSE to actively engage with the third regional reconciliation scheduled for Spring 2023 to ensure all five regional plans form a coherent and consistent set of regional plans for England. WRSE should use the regional plan consultation responses and the outcomes of the reconciliation process to update and finalise the regional plan. The EA stated that it expected final regional plans to be produced later this year after WRMP statements of response have been issued, but ahead of final WRMPs where possible.
- 13.5. Ofwat stated that WRSE decision-making was more clearly explained than it was at the emerging plan stage. The best value planning method statement (December 2022) explained the approach and methods adopted to produce the best value adaptive regional plan and how tools developed have been used to underpin decision making. It noted that regional plan objectives were clearly set out within the method statement, and WRSE's summary of its decision-making processes were clear. Ofwat considered that in its final plan, WRSE needed to state the value of the additional benefit within the regional planning tables and explain why the additional cost was best value, providing assurance on the robustness of the valuation data. Ofwat also stated that WRSE should demonstrate in its final plan that decision making had not been influenced by artificial constraints, and that this includes presenting the implications of sensitivity testing of different profiles of 1 in 500 year drought resilience, flexing the use of drought permits and orders,

testing different glide paths on water efficiency and leakage as well as the use of temporary use bans (TUBs) and non-essential use bans (NEUBs).

Other organisational responses

- 13.6. Some local authority and other respondents, including those in opposition to the SESRO Reservoir proposal suggested that WRSE should re-evaluate its best value criteria to better consider the environmental impact and carbon emissions associated with the projects in the plan, and/or to promote a least risk and least environmentally damaging plan. This also linked back to their concerns about the relative lack of priority being given to the climate emergency and carbon emissions associated with large supply schemes.
- 13.7. The Group Against Reservoir Development (GARD) commented on the comparisons between major plan options ('Best Value', 'Least cost', 'Best societal and environmental plan') and concluded that these were completed on the basis of metrics which were still in development and often badly compromised. The Group Against Reservoir Development also provided detailed comments on the basis for WRSEs cost comparisons between options, highlighting concerns about the deployable output calculations used in WRSE's assessment, and commented on the robustness of the environmental, natural capital, biodiversity net gain and carbon assessments undertaken, concluding that they were not fit for purpose.

Individual responses

- 13.8. Some respondents were concerned that WRSEs decision making favoured the water companies and shareholders rather than customers, and that best value plans for the environment or customers had not been provided. Other respondents considered that WRSE decisions had not fully considered the cost to build, operate and the environmental impact of the options selected.

WRSE's work since the draft regional plan was published

- 13.9. WRSE has not changed its best value planning approach and decision making since the draft regional plan. However, a clearer explanation of the process is set out in the revised draft regional plan.

WRSE's response to the issues raised

- 13.10. Technical Annex 1 of the draft regional plan clearly set out WRSE's approach to best value planning, with the plan supported by more detailed method statements and background documentation published on WRSE's website. WRSE's best value planning approach meets the WRPg and regulatory requirements for water resources planning, and WRSE has been at the leading edge of best value and adaptive planning work taking place across the UK.
- 13.11. The selection and use of best value metrics based on key factors relating to the plan's objectives, enables measurable comparisons to be made between different alternative plans as part of preparing the draft regional plan. These metrics fed into WRSE's decision making processes and comparison information was presented in the draft regional plan itself, and in the more detailed Investment Modelling Report published alongside the draft regional plan.
- 13.12. This comparison exercise included least cost, best value and best environmental and social plans. It also included plans which were weighted more heavily toward resilience or customer metrics, ensuring that the range of different potential plan outcomes could be identified, tested and then used as part of the overall decision making process. WRSE and our member companies have consistently identified and modelled the financial costs for the construction and operation of options available for selection within the regional plan investment modelling. They have also ensured that the environmental impacts of options development and operation are also assessed, identified and captured within decision making.

- 13.13. As part of its investigation and assessment of alternative plans, WRSE undertook significant sensitivity and scenario testing for the draft regional plan, including testing how the cost, option selection and plan performance changed for different combinations of policy choices and decisions, including in relation to drought resilience and PCC. This specifically covers the information requested by Ofwat in relation to the date for achieving 1 in 500 year drought resilience, with WRSE selecting 2040 as the optimum date for the draft regional plan. WRSE has repeated this sensitivity testing for the revised draft regional plan. This updated sensitivity testing shows that the Government's Environmental Improvement Plan interim targets increase the overall cost of the plan when compared to the draft regional plan, due to the required faster profiling of demand management and leakage reduction measures.
- 13.14. WRSE accepts that there are further improvements that it can make as part of future water resources plan cycles, including to the definition and calculation of the best value metrics themselves, and the methods used for the optimisation of metrics as part of the investment modelling approach. However, WRSE remains confident that the metrics it has identified and used are robust, and that the comparability of metrics as part of best value planning is an essential part of the decision making process.
- 13.15. A number of respondents commented on or questioned the basis for decision making for the draft regional plan. Whilst the overall approach has not changed, WRSE recognises that it could better articulate the process in more accessible language, and has provided this updated explanation in the revised draft regional plan, as summarised below.

How the revised draft regional plan has changed in response

- 13.16. Section 8 of the revised draft regional plan includes a clearer explanation of the best value planning process that WRSE has followed, responding to

comments received on the draft regional plan. In order to derive a best value plan WRSE uses a five step process as set out in the figure and described in the text below.

- 13.17. **STEP A:** The least cost plan (LCP) is derived using the investment model (IVM). All schemes are available for the model to choose from, i.e., there are no pre-selected or "forced in" schemes, so the IVM is free to select feasible options when available within the planning period.



- 13.18. **STEP B:** Having derived the least cost plan a series of sensitivity tests are then undertaken to see what happens to the plan if key schemes are excluded or delayed. These LCP sensitivity runs provide useful additional information to determine how critical certain schemes are to the plan and also whether there are any alternatives to them. Some of these tests also explore different combinations of the size of certain schemes. These tests are also used to see what happens if a policy compliance date moves forward or backwards e.g. how would the investment plan change if the extreme drought resilience compliance date moved back to 2050.
- 13.19. **STEP C:** Successive model iterations to produce a different set of costs and overall average score of the best value plan metrics for subsequent use in investigating the extent to which best value performance can be improved.

- 13.20. **STEP D:** The next stage in the process is to consider if the overall best value plan metrics could be improved. The investment model is used to derive these plans by imposing thresholds for each of the metrics that it must meet to derive a plan. Each new plan still has to meet the policy conditions and must not have any future supply demand deficits. If they do contain deficits they are reviewed but they cannot be considered as a viable plan. The thresholds that are set are based on improving the thresholds obtained from the least cost plan run. When the threshold limits cannot be met the model run is infeasible. Successful BVP runs typically cost slightly more than the LCP but have improved BVP scores.
- 13.21. **STEP E:** Those BVP runs which are feasible are reviewed to understand what additional schemes have been added to the LCP to improve the overall score of the program. Typically, catchment management schemes get included in the plan and although they do not always provide any deployable output benefits, they do provide some limited improvements in Natural Capital, SEA benefits and bio-diversity net gain. The BVP sensitivity testing phase of deriving the regional plan therefore looks at a range of solutions that improve the BVP scores and test these against other BVP runs which explore different availability of options.
- 13.22. Section 8 of the revised draft plan explains this process, and Section 17 of the revised draft regional plan the results obtained from the investment modelling at each of the five steps. Additional information on WRSE's decision making processes is also set out in Section 17 of the revised draft regional plan.

14. Balance between demand management and new supplies

What did the draft Regional Plan propose

- 14.1. The draft regional plan set out WRSE's proposals for meeting future water resources needs over the period to 2075. The scale of need is very significant and meeting it requires a wide range of action and investment to both reduce demand for water and to increase supplies. The large reliance on demand management measures was explained in the draft regional plan, especially in the early part of the planning period, highlighting how over the longer term more new resource development was required.
- 14.2. For the period 2025 to 2035 in the reported pathway (pathway 4) the draft regional plan explained that 70% of the additional water required would come from demand management measures, including leakage reduction, water efficiency (including Government policy interventions), and the use of Temporary Use Bans (TUBs) and Non-Essential use Bans (NEUBs) in droughts. The other 30% would come from new supplies including transfer into the region, water recycling schemes, a reservoir, groundwater schemes, a desalination plant, and from the use of drought permits and drought orders.
- 14.3. Between 2035 and 2075 the draft regional plan identified that 56% of the required additional water would come from water efficiency, leakage reduction and drought management measures. The other 44% is delivered from new supply schemes, including 2 transfers from other regions, 7 reservoir schemes, 12 water recycling, 9 desalination plants, 22 groundwater schemes, and also from a combination of other options.
- 14.4. The draft regional plan also explained that under the adaptive plan pathways a different balance between demand management and new supplies would result. Under the high pathway, where the need for water is greater, 52% would be from demand management measures. Under the low pathway,

where the need for water is lower, 78% would be from demand management measures.

Summary of issues raised in responses

Regulatory and other Government responses

- 14.5. The EA stated that the plan had an ambitious demand management strategy, with demand management delivering 70% of the overall solution in the first five years of the plan and remaining at over 50% of the solution by the end of the planning period. As a result, the regional plan included very high reliance on the delivery of demand management in the first 10 years of the planning period to maintain supply-demand balance, without any adaptability if this was not achieved at the pace expected, as WRSE presented only a single pathway for the first 10 years of the planning period. Therefore, the EA considered it unclear what actions would be taken if the assumed demand savings were not achieved, and what alternative options would be needed to make up any shortfall in demand reductions. It considered that WRSE should assess and prepare for the risk that the pace of planned demand reductions up to 2035 are not achieved, setting out what mitigating options could be brought forward to maintain resilience and continue to deliver environmental commitments.
- 14.6. Ofwat noted that WRSE had not optimised demand side options across the different water companies or over time across the planning period. It considered that WRSE should include further consideration of how demand management activity could be tailored across companies and over time to achieve better outcomes in its final plan. Ofwat also considered that in the final plan, companies should ensure they provide sufficient and convincing evidence that they have developed optimal long-term plans based upon efficient cost estimates. It stated that WRSE should also set out how the opportunities for the expansion of existing reservoirs, which Ofwat's analysis confirms is typically significantly lower cost than developing new resources, have been explored.
- 14.7. In terms of available supply options, Ofwat stated that WRSE had confirmed it had 1,740 unique schemes capable of supplying 4,446 MI/d of water.

When compared to the expected needs in 2050 of 2,200 ML/d Ofwat noted that WRSE therefore had feasible options that can meet around 202% of its need. While this was a wide range of options and provided enough water to meet needs, Ofwat commented that the capacity is only around double the predicted need. Ofwat considered that a broad range of options was required to develop an optimised programme and to provide choices across the region, and expanding the options available could affect the scaling, timing or selection of large infrastructure options.

- 14.8. Natural England considered that the regional plan recognised the importance of reducing demand and leakage to lessen the current impact of abstraction on the natural environment, and to minimise the reliance on new costly and potentially environmentally damaging water resource schemes. It noted that the Plan appeared ambitious in this respect, although not all government targets were set to be achieved, and Natural England challenged all water companies and WRSE to keep looking for ways they could do even more. However, Natural England was concerned with some of the options that had been put forward, especially those for delivery in the earlier stages of the Plan where there is potential for significant impacts. These concerns and its advice around relevant options had been outlined in responses to relevant WRMPs as well as to WRSE.

Other organisational responses

- 14.9. Some local authorities sought further focus on leakage reduction and demand management and stated that achieving leakage reduction and water efficiency targets should be a pre-requisite before major new water resource developments are planned and implemented. Local authorities opposed to the SESRO Reservoir proposal however, considered that the plan does not strike the right balance between reducing demand for water and development schemes to provide new water supplies. They commented that the plan should prioritise other options such as water recycling close to where it is needed before making a decision to support the SESRO Reservoir proposal.

- 14.10. NFU stated that it supported demand management activities that would reduce the pressure on the water system, however there was an emphasis on supply side options for public water supply and a decrease in demand for all other sectors, with limited or no offered supply side options. NFU asked for clarity on the involvement of the agriculture and horticulture sector in these options.
- 14.11. Waterwise supported the ambition to significantly reduce water demand in the WRSE plan as part of the twin track strategy. It agreed that demand reduction needed to be a core part of the plan and also how especially important it was in the first 10-15 years of the plan period while more supply side resources come online. However, given this, it considered there was a mismatch between the scale of water company demand management programmes and their associated budgets, given the scale and need for demand savings. It contrasted this with the millions being spent on investigations into reservoir supply side schemes and water transfers.
- 14.12. ICE recognised that the ability to reduce water demand was dependent on factors often outside the direct control of water companies such as customer behavioural change and that this could shift the balance required between future water from new water supplies versus that saved via reducing demand for water. ICE considered that this required a concerted effort between water companies, government and governmental agencies, customers, and other stakeholders to effectively and collaboratively drive water demand reduction to deliver this plan.
- 14.13. CCW noted the initial focus of the regional plan on demand management measures, and provided detailed comments in response. It noted that companies appeared to be focusing on smarter metering in both homes and businesses, but wanted more detail on how the wholesale companies planned to work with business customers and retailers in the short and long term to reduce demand and increase water efficiency. It also wanted more detail on planned water efficiency campaigns and programmes. CCW believed a step change in the way the public was being engaged with on these matters was needed, and would like to see initiatives conducted at company level potentially scaled up, if found to be successful, with collective

learning and evaluation of these programmes at the national level. It stated that simply doing more of the same, with companies working on relatively small scale local initiatives, was not going to bring about the step change in attitudes and behaviours that was needed. CCW stated it strongly believed that the changes necessary would only be delivered through a more structured and coordinated approach that was overseen and given direction by a body of experts in the different specialisms required - in effect, an equivalent of RAPID but designed to accelerate the reduction in demand that is required. It welcomed the opportunity to discuss this proposal with WRSE.

Individual responses

- 14.14. Some respondents were concerned at what they stated were high levels of leakage and lack of water efficiency and commented that urgent action was necessary to tackle this, as a pre-condition before seeking to consent and deliver major new resource schemes. Others, whilst supportive of demand management measures, urged caution on over reliance on the savings from these measures unless they could be guaranteed to be delivered.
- 14.15. The need for ongoing monitoring and review of the level of need and progress with demand management and new resource development was also highlighted by respondents, with flexibility to adapt as circumstances change over time. Some respondents questioned why if the scale of need was so great wasn't WRSE selecting new water resource options capable of being developed quickest, and/or promoting even further demand management measures such as faster and greater leakage reduction and water efficiency measures.
- 14.16. Other respondents felt that the need for additional water resources was overstated in the draft regional plan, including in relation to population growth, and that with more demand management not all of the new resource options would be required. Some respondents suggested that there was too much focus on supply options and that greater and earlier focus on demand side options was necessary. Other responses urged more consideration of water recycling and water transfer options, including earlier in the plan period. Others considered that demand management and water

transfers should be prioritised first, ahead of new resource developments, with support expressed for the levels of planned savings from demand management but also suggestions by respondents that more could be done – achieving the Government's 110/l/h/d by 2050 or a higher or earlier target. However some concerns were expressed about what the implications would be if the planned demand management savings were not achieved.

- 14.17. Many respondents followed suggestions provided by the Group Against Reservoir Development, including that Thames Water should invest more in leakage reduction, water efficiency and wastewater treatment (to achieve the sector average in these areas), and commit to meeting the Government target for per capita consumption by 2050.

WRSE's work since the draft regional plan was published

- 14.18. Since the publication of the draft regional plan, WRSE and our member companies have re-assessed the demand management options available as part of the investment modelling and disaggregated them into smaller component parts. This has resulted in an increase in the total number of options available for selection from 2,000 to 4,000.
- 14.19. The Government published the [Environmental Improvement Plan](#) (EIP) in January 2023 (after the draft regional plan). The EIP is the Government's first revision of the Government's 25 Year plan for the Environment, building on its vision with more detailed plans for working with landowners, communities and businesses to deliver the Government's goals for improving the environment. Importantly, the EIP includes specific interim targets towards the Government's goals, providing a means of tracking and monitoring progress, including a number of relevance to the regional plan.
- 14.20. The Environment Act 2021 includes a water demand target to reduce the use of public water supply in England per head of population by 20% from the 2019/20 baseline reporting year figures, by 2037/38. The EIP expands on this, setting out that this will require:

- household consumption to fall to 122 litres per person per day (l/p/d)
- non household consumption to fall by 9% from 2019/20 levels
- total leakage to be reduced by 37% from 2017/18 levels.

- 14.21. This is part of the trajectory to achieving 110 litres per person per day for household water use, a 50% reduction in leakage and a 15% reduction in non-household water use by 2050. This is the first time non-household targets have been set.
- 14.22. In response to the publication of the Government's Environmental Improvement Plan, and updates to the WRP since the draft regional plan, WRSE and our member companies have enhanced the demand management strategies in light of the regulatory requirements relating to PCC and leakage reduction, including achieving higher levels of demand reductions necessary to meet interim targets set in 2038.

WRSE's response to the issues raised

- 14.23. The draft regional plan identified the high reliance on demand management measures in the early years of the planning period, with the contribution of these measures and supply options becoming more balanced as the plan period progressed. This twin track approach has formed a core component of water resources planning for some years, and is an essential part of ensuring the region is able to meet the water resources challenges it faces. The draft regional plan showed the significant scale of both demand management and supply options that are both required to be successfully delivered.
- 14.24. The demand management measures selected as part of the draft regional plan formed a considerable part of the overall solution to the challenges facing the South East region. With the incorporation of the interim targets from the Environmental Improvement Plan and the commitment to dry year 110 l/h/d in the revised draft regional plan, demand management plays an even more significant role in the regional plan. The support for a high emphasis on these measures expressed in the consultation responses is

welcomed by WRSE. It recognises, however, that this reliance on demand measures is not without risk, and that many respondents are still seeking further details and information on the specific measures that are to be adopted, how their progress will be monitored and what corrective action WRSE would take in the event the planned for savings are not secured.

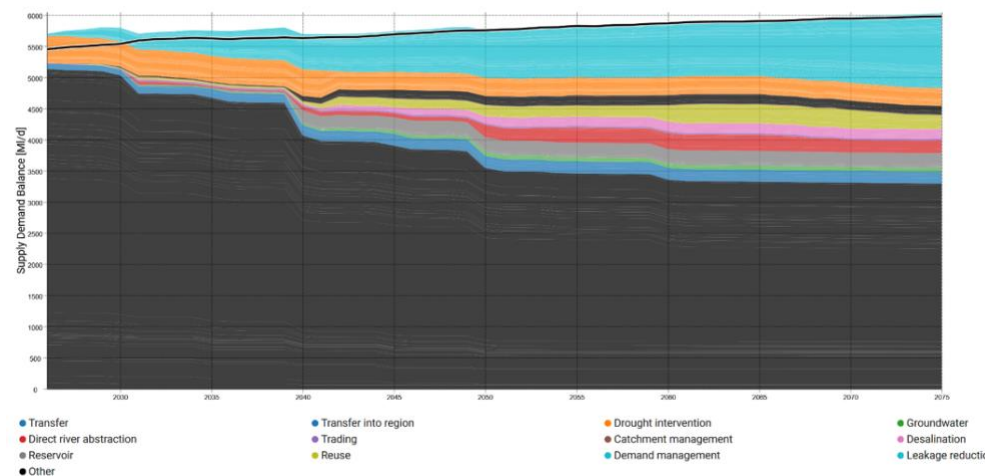
WRSE acknowledges that there are risks relating to delivery of both the demand management and supply options, and has explored sensitivity around delivery risks within Section 17 of the revised draft regional plan, and outlined its approach to monitoring in Section 18 of the revised draft regional plan. WRSE has incorporated additional information in its revised draft regional plan to make this clearer, and our member companies are doing the same within their individual statutory WRMPs. WRSE will publish a Monitoring Plan when alongside its final regional plan.

How the revised draft regional plan has changed in response

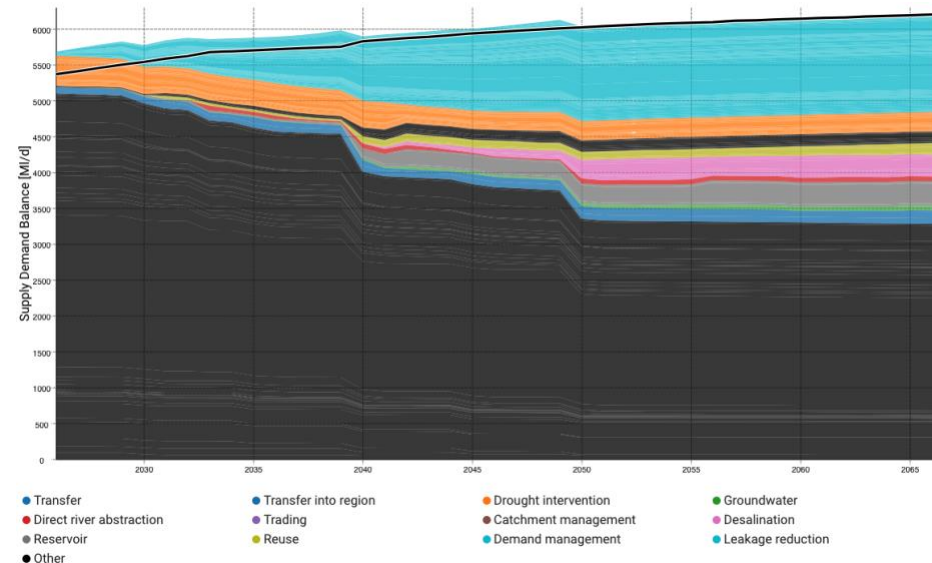
- 14.25. With the incorporation of the interim targets from the Environmental Improvement Plan and the commitment to dry year 110 l/h/d in the revised draft regional plan, the majority of the total water needed in the first 15-years of the planning period will come from reducing how much is used and what is wasted through leakage. Achieving and maintaining this lower and more sustainable level of water use across society is a key component of the long-term solution in all the alternative pathways. By 2050, achieving the level of demand reduction identified in our plan will continue to provide over half the additional water we will need to address the shortfall in water supplies.
- 14.26. This level of leakage and usage reduction is ambitious but WRSE's analysis shows this increased level of activity, beyond what was committed to by some companies in their previous WRMPs, is required if more significant reductions to abstractions are needed to protect the environment in the long-term. Delivering them will rely on new approaches and technologies that are yet to be tried and tested, as well as changes to customer behaviour and Government policy.

- 14.27. The increased reliance on demand management measures in the revised draft regional plan also reduces the need for new water resources to be developed during the planning period, as illustrated in the two figures below. The figures illustrate the overall balance between existing resources (shown as the large dark grey area at the bottom of the graph), new sources of water (the multi-coloured areas in the middle of the graph) and the contribution from demand management measures (the light blue at the top of the graph).
- 14.28. The first figure illustrates the position at the time of the draft regional plan, and the second illustrates the position with the revised proposals (and greater reliance on demand management measures) in the revised draft regional plan. The greater reliance on demand management across the planning period can be seen in the larger size of the light blue shaded area (for demand management) in the graph, and the corresponding smaller multi-coloured dashed area (for new water resource options).

Draft Regional Plan Supply Demand Balance illustration



Revised Draft Regional Plan Supply Demand Balance illustration



- 14.29. WRSE has also updated the monitoring section (Section 19) of the revised draft regional plan to explain how it will monitor performance on delivery of the demand management and resource development options within the plan and publish the results. WRSE has also provided further explanation of the sensitivity and scenario testing it has undertaken, particularly around the delivery of demand management measures and Government interventions, and explained how the regional plan is able to adapt to any performance issues that may arise.

15. Leakage reduction proposals

What did the draft Regional Plan propose

- 15.1. The draft regional plan explained that at present, nearly 16% of the water that is treated and put into supply is lost through leaks from water companies' and customers' pipes. The regional plan will deliver the ambition of halving leakage levels across the region by 2050. It will build on the reductions that are achieved between 2020 and 2025. In total, reducing leakage from 2017/18 levels will provide 556 million litres of water per day of which 286 million litres per day is delivered through the draft regional plan. The draft plan explained that at a regional level by 2050 the number of litres per property per day lost through leaks would reduce from 140 (2017/18 level) to 52. It also presented data for the six companies in the region.
- 15.2. The details of the leakage reduction measures will be developed by the six water companies, but the draft regional plan explained that the types of measures that the regional plan assessed as potentially being used include:
- Installing sensors in water pipes that use smart technology to detect smaller and less visible leaks, so they can be found and fixed more quickly
 - Replacing water mains that are more likely to leak or burst
 - Managing water pressure to help lower leakage levels
 - Working with customers to find and fix leaks on their own water pipes (water meters, particularly smart meters for household and non household customers proposed as part of water efficiency measures greatly assist with this).

Summary of issues raised in responses

Regulatory and other Government responses

- 15.3. Ofwat noted that WRSE had set out the plan to meet the expected 50% leakage reduction by 2050, but considered that WRSE should consider the case for some of its companies going beyond a 50% reduction where leakage was particularly high.
- 15.4. Natural England noted that all six water companies in the South East were aiming to reduce their leakage by at least 50% by 2050, with the draft regional plan expecting to reduce leakage across the WRSE Region by 51%, from 140 litres per household per day in 2017/18 to 52 litres per household per day in 2050 (thus meeting the WRP target). It noted that water company leakage projections ranged from 32 litres per household per day (SES Water) to 66 litres per household per day (Thames Water) by 2050. Natural England commented that despite its ambitious leakage programme, Thames Water's leakage rate per household was, and would continue to be, much higher than that of the other water companies. It understood the technical difficulties and costs of leakage prevention and repair, but challenged water companies to go as far and as fast as they could to improve the situation and support the environmental improvements required in the region. It considered that where there was potential to go further and exceed the leakage targets, water companies should be supported to do so.

Other organisational responses

- 15.5. Local authorities expressed strong support for planned leakage reduction and a number urged water companies to do more on leakage reduction given the current significant levels of leakage in the South East. The planned leakage reduction was also supported by organisational respondents, although faster and further action was supported by many, some expressed concerns on the risks to water supply being faced if planned savings were not achieved.

- 15.6. Hampshire and Isle of Wight Wildlife Trust was pleased the plan aimed to meet the government ambition to half leakages by 2050 from 2017/18 baseline, and agreed that water companies must prioritise leakage reductions in order to reduce the amount of water that is abstracted. It noted that whilst three-quarters of UK water companies were reportedly on track to meet leakage targets according to Ofwat, Affinity Water and Southern Water are currently failing to meet the government target, and it wanted real progress on tackling leakage reductions over the plan period.
- 15.7. CCW commented on the importance of leakage to customers. It noted the need for all companies to deliver the reduction in leakage the sector was committed to, and considered this would help to encourage customers to use less water if they could see their company was doing all it could to ensure water was not being wasted.
- 15.8. The Group Against Reservoir Development (GARD) welcomed Thames Water's planned leakage reductions in London, where there was a reduction of 60% by 2050, well ahead of the 50% reduction target. However, the Group Against Reservoir Development highlighted that Thames Water's planned leakage reduction in its zones outside London was only 27% and well short of the 50% target. GARD proposed that leakage in these zones should be reduced to 40 l/property/day by 2050 to be in line with the leakages planned in all other regions outside London, and calculated that this would give a total saving of 74 MI/d in the Thames Valley zones compared to WRSE / Thames Water's plan.
- 15.9. Other respondents were concerned at the current high levels of leakage and stated that urgent action was necessary to tackle this, as a pre-condition before seeking to consent and deliver major new resource schemes. Respondents commented that the 50% reduction target was not ambitious enough and that greater and earlier action by the water companies was required, as companies could not expect their customers to be more water efficient when they were leaking so much water themselves. The importance of water companies being able to influence customer behaviour was highlighted, but also recognised as a challenge given current public concerns about leakage and unrelated storm discharges to rivers and harbours. Whilst

supportive of demand management measures, other respondents urged caution on over reliance on the savings from these measures unless they could be guaranteed to be delivered.

Individual responses

- 15.10. Many respondents were concerned at the current high levels of leakage and stated that urgent action was necessary to tackle this, urging WRSE and the individual water companies to do more than they were currently planning on leakage reduction. Some considered this to be a pre-condition before seeking to consent and deliver major new resource schemes. Respondents commented that the 50% reduction target was not ambitious enough and that greater and earlier action by the water companies was required, as companies could not expect their customers to be more water efficient when they were leaking so much water themselves. The importance of water companies being able to influence customer behaviour was highlighted, but also recognised as a challenge given current public concerns about leakage and unrelated storm discharges to rivers and harbours. Whilst supportive of demand management measures, other responses urged caution on over reliance on the savings from these measures unless they could be guaranteed to be delivered.
- 15.11. There was strong support for the planned investment in leakage reduction, although some respondents whilst supportive of the plans questioned the details of what was actually proposed, and sought evidence on deliverability and certainty of achieving the levels outlined in the draft regional plan. This raised fears about the impact on customers and their bills, and how deliverable the levels of savings would be, with the risk that failure to deliver might lead to more supply options being needed. Other respondents urged WRSE and the water companies to go further than their current plans. Some respondents felt that leakage reduction plans were not ambitious enough.

WRSE's work since the draft regional plan was published

- 15.12. Since the publication of the draft regional plan the WRP has been amended, and the Government's Environmental Improvement Plan (EIP) published, which have necessitated changes to the approach to leakage reduction in the plan.
- 15.13. As part of the trajectory to achieving a 50% reduction in leakage (from 2017/18 levels) by 2050, the EIP requires total leakage to be reduced by:
- 20% by 31 March 2027
 - 30% by 31 March 2032
 - 37% by 31 March 2038.
- 15.14. As a consequence, WRSE and our member companies have undertaken additional work on the leakage reduction options and proposals in the plan to ensure that the updated policy requirements and regulatory guidance can be met (further details set out in paragraphs 15.21 to 15.24 below).

WRSE's response to the issues raised

- 15.15. Customers and stakeholders see current levels of leakage as unacceptable and want further/faster action. Some see it as a pre-requisite before new resources are developed. The widespread support for leakage reduction was coupled in responses by respondents asking what the detailed measures were that the companies were proposing, and whether the planned reductions would be achieved. The different performances of the six water companies was highlighted.
- 15.16. The draft regional plan committed to achieving the 50% reduction in leakage by 2050 target. This requires significant financial investment and co-ordinated action by the water companies and their household and non-household customers. WRSE recognises that the levels of leakage reduction are challenging, and will progressively require alternative techniques to be

adopted through to 2050, e.g. area mains replacement (replacing all pipes in an area) as opposed to more traditional 'find and fix' strategies. The contribution that smart metering and the use of telemetry within the distribution networks will be critical, as these significantly improve company's ability to identify and investigate potential leaks in a timely manner.

- 15.17. Achieving the required levels of leakage reduction will require action not just from the water companies but their customers too. Securing the support and action of customers is vital to the successful delivery of the leakage reduction (and demand management) plans. Technologies including smart metering will help identify leaks in customer supply pipes, other plumbing losses, and water wastage in the home. This is an important part of the overall leakage reduction proposals, alongside the finding and fixing of leaks in mains pipes by water companies.
- 15.18. A number of respondents urged faster and further action to reduce leakage, highlighting the relative performance of different regions and companies. WRSE and our member companies accept and acknowledge that the leakage reduction performance of different companies varies, depending on the age and condition of its mains network, the age of dwellings and other properties served, the scale of water put into supply, and the original level of leakage to be tackled.
- 15.19. The greater the level of leakage reduction to be achieved, the greater the financial cost and potentially disruptive mains replacement and other activities required to achieve it. Research undertaken by Thames Water for its draft WRMP considered the financial costs and activity required to achieve higher levels of leakage reduction than the 50% being planned for by 2050. Thames Water's programme was forecast to cost £6.3 billion to reduce leakage by 50% by 2050. To achieve a much greater reduction in leakage and achieve a 60% reduction by 2050, Thames Water would need to double its Mains Rehabilitation activity to 6,600km of pipe along with an increase in other activity, at an increased cost of £13.9 billion, £7.6 billion more than its programme to achieve 50% reduction. Thames Water's research showed

that to go further and reduce leakage by 80% by 2050, it would need to increase the Mains Rehabilitation programme by 2.5 times to repair or replace 7,765km of mains, along with significant changes to other measures as well. This would increase the cost to £25.3 billion, £19 billion more than Thames Water's programme to achieve 50% leakage reduction.

- 15.20. WRSE and the six companies are committed to significantly reduce leakage, but the scale of leakage reduction has risks attached, relating to potential under-performance and under-delivery. The Government's EIP's interim targets to reduce leakage by 20% by 31 March 2027 and 30% by 31 March 2032 give clear monitoring points against which actual delivery performance can be measured. This will be fed directly into WRSEs regional monitoring plan, as explained in Section 19 of the revised draft regional plan. WRSE has undertaken additional sensitivity and scenario testing for the revised draft regional plan, particularly around the delivery of demand management measures, to ensure that the regional plan is able to adapt to any performance issues that may arise.

How the revised draft regional plan has changed in response

- 15.21. WRSE remains committed to meeting the 50% leakage reduction requirement by 2050, as set out in the draft regional plan. In addition, however, the revised draft regional plan commits to the interim targets set out in the Government's EIP which were published since the draft regional plan. These are achieving 20% reduction by 31st March 2027, 30% reduction by 31st March 2032 and 37% by 31st March 2038. This has the effect of bringing forward leakage reduction measures in the revised draft regional plan from later in the plan period, when compared to the draft regional plan.
- 15.22. In total, leakage will be reduced by 556 million litres of water per day by 2050, of which 310 million is delivered through this regional plan. This will see our six member companies reduce leakage in the South East by 50% from 2017/18 levels by 2050. Activities to reduce leakage could include the following:

- Installing sensors in water pipes that use smart technology to detect smaller and less visible leaks, so they can be found and fixed more quickly
- Replacing old water mains so there are fewer leaks and bursts and fewer interruptions to service
- Managing the pressure inside water pipes so less water is lost through leakage
- Working with customers to identify and repair leaks on their own water pipes.

- 15.23. WRSE and the six companies will monitor and publicly state their progress towards achieving the leakage reduction targets. The scale of the leakage reduction challenge cannot be under-estimated, and WRSE and the companies recognise the importance of monitoring and reviewing delivery performance, feeding directly into WRMP Annual reviews and WRSEs regional monitoring plan, as explained in Section 19 of the revised draft regional plan.

- 15.24. The performance against targets will form a key indicator reviewed as part of the next cycle of regional plans and WRMPs (due for finalisation in 2028/29). Any risks relating to the achievement of the planned levels of leakage reduction will be assessed and incorporated into those plans, and could potentially lead to decisions that further water resources developments may be needed as a consequence, to ensure security of customer supplies over the plan period.

16. Water efficiency proposals

What did the draft Regional Plan propose

- 16.1. The Government has set a national target to reduce household consumption to 110 litres per person per day by 2050. The draft regional plan explained that at present, average water use in South East England is 150 litres per person per day. This has risen in recent years, sharply at first because of the full effect of lockdown conditions during the pandemic, before seeing trends settling back down, but is still at higher levels than before the pandemic as we have seen a move towards more hybrid working patterns and time spent at home becoming the norm. Based on the proposals in the draft regional plan WRSE anticipated this will fall to an average of 115 litres per head per day (l/h/d) across the region by 2050. This requires Government policy interventions for this to be achieved.
- 16.2. The level of household water use varies between the six WRSE water companies due to several factors such as housing types, levels of affluence, household size and other personal choices that influence how water is used. Smart meters are helping companies to better understand how water is used, and data from companies that have installed smart meters shows that many people typically use between 100 and 110 litres per day, but a moderate proportion of very high users exists that causes average usage to be higher.
- 16.3. Helping customers to reduce their water use will be achieved through action by water companies and the introduction of new government policies that will promote water efficiency. The detailed measures will be devised by the individual companies but measures assessed in the regional plan include:
- Installing water meters and smart devices in more homes and businesses to help customers understand how much water they use
 - Using smart meter data to help target activity and communications to customers about their water use

- Carrying out more in-home water saving visits and fitting products to help save water with a focus on customers who use a large amount of water
- Running public awareness and education campaigns to promote efficiency and helping customers understand their usage
- Testing how different tariffs can encourage water efficient behaviour
- Helping customers and businesses to reduce wastage from poor plumbing.

Summary of issues raised in responses

Regulatory and other Government responses

- 16.4. The EA recommended that WRSE increase the long-term demand management ambition and mitigate uncertainty in delivery of short-term reductions. It noted that the demand management strategies included government water efficiency interventions phased across the planning period, and that WRSE had indicated that this posed a risk to the plan, by relying on government interventions to deliver a significant amount of the water savings included in the plan. Whilst WRSE had performed sensitivity testing on a range of government intervention strategies, the EA noted that the plan did not detail what the alternatives would be if the savings assumed did not occur as expected, and what the impact on option selection was or how delivery of those options would be activated. The regional plan only stated that additional resource would be required.
- 16.5. The EA also noted that the draft regional plan did not achieve 110l/h/d per capita consumption (PCC) by 2050 and that PCC had been reported under a normal year planning scenario and not a dry year planning scenario. It stated that Government expectations were that this was a target to be met in all company areas and should be assessed under dry year conditions. The EA made a series of recommendations for WRSE for the revised draft regional plan relating to demand management.
- 16.6. Ofwat noted that the draft regional plan did not plan to reduce personal consumption to 110 l/h/d, and that WRSE was reporting personal consumption figures for a normal year which are lower than what they

would see in a dry year. Ofwat stated its expectation for WRSE to align its final plan with the government 110 l/h/d target in a dry year and target to reduce use by 20% from the 2019 to 2020 baseline reporting figures, by 31 March 2038, with interim targets of 9% by 31 March 2027 and 14% by 31 March 2032. It stated that WRSE should strengthen its approach to water efficiency so that it was in line with government targets on personal consumption, including non-household water efficiency, and explore how it could achieve better results by tailoring interventions across the region and planning period.

- 16.7. Ofwat was also concerned that the WRSE investment model was unable to balance supply and demand in the absence of all Government-led demand management activities beyond water labelling, and that the draft regional plan stated that extra water would need to be found from additional schemes not currently included in the regional plan. Ofwat noted that South East Water had developed an alternative plan that included schemes that could be introduced over the next 15 years to reduce the risk of not achieving government customer water use and leakage targets. Ofwat stated that between the draft and final plan WRSE should work with South East Water to develop a more cohesive regional approach to managing uncertainty relating to demand management. It expected to see a more developed proposal for managing these risks, and an approach to monitoring them, in the final WRSE plan.
- 16.8. Natural England commented that significantly improved water efficiency would be essential to leave enough water in the environment to meet the challenging targets for nature recovery and resilience in the Government's 25 Year Environment Plan. It noted that the draft regional plan did not meet the WRPG targets, and that PCC for each water company ranged from 106 l/h/d (SES Water and Southern Water) to 121 l/h/d (Thames Water) by 2050. However, Natural England noted that the figures quoted (p.26 of the draft Regional Plan Summary Document) did not seem to match those presented in companies' WRMPs (the values in the Regional Plan are slightly lower). Natural England recognised that practical challenges meant that lowering household water use was more difficult in some places than others due to variation in housing types, levels of affluence and household size. Therefore,

it encouraged water companies and WRSE to tailor their approach to demand management depending on local circumstances, maximising support to new and existing household water users and incentivising low water use.

- 16.9. Natural England stated it would like to see customers making a greater connection between their local environment and personal water use, thereby increasing the value they put on water. It would welcome a discussion with WRSE and water companies about ways in which Natural England could support any education and awareness-raising campaigns.

Other organisational responses

- 16.10. Waterwise was pleased to see the plan committing to achieve 109 l/h/d PCC overall by 2050 with government policy support. It was also really pleased to see the analysis undertaken by WRSE on the importance of Government policy interventions and the potential additional water and cost savings associated with higher levels of interventions. However, it was frustrated that the water efficiency measures were not presented in detail, with the reader referred to multiple individual company scale WRMPs instead. It stated that the final regional plan needed to bring this information together more clearly. It also commented on building regulations and water labelling.
- 16.11. Local authorities expressed strong support for planned water efficiency measures, although a number of local authorities identified that WRSE's proposals would not meet the Government's 110 l/h/d target and urged water companies to do more on water efficiency. The role that planning authorities have in seeking to secure high water efficiency measures in new housebuilding projects was highlighted, and water companies and WRSE were urged to secure the retro-fitting of existing properties and to lobby for greater Government interventions. Local authorities in Sussex highlighted the need for urgent action demand management given the Water Neutrality constraints in Sussex North water resource zone. It was suggested that incentives could be introduced to have a smart meter, and to encourage customers to harvest rainwater and store water for gardening and non-

drinking water uses like flushing WCs. New housing could include provision for storing water, for example in gardens or underground.

- 16.12. Some respondents criticised WRSE for the plan not being ambitious enough, commenting that if the PCC figures were lower and introduced sooner, this would reduce the need for new strategic solutions to meet demand. Similarly, some criticised WRSE for relying on Government interventions as late as 2040 or 2060 for building regulations and suggested this was being used by WRSE to overestimate the water needed.
- 16.13. CCW considered that wholesale companies' plans needed to be clearer on how they will manage non-household demand, especially in areas more at risk of water scarcity. It would like to see greater innovation and ambition in demand management, with the wholesale companies showing how they would engage with customers and retailers on joined up strategies to help reduce demand. It also wanted to see clear plans for smart metering for business customers in their PR24 business plans (and WRMPs), and accelerate those plans where possible. This should include a targeted approach, prioritising meters left unread for 12 months or longer; and high water users. CPRE also stated that water companies should accelerate the installation of smart water meters and, as soon as possible, implement a progressive charging policy to penalise the high water users.
- 16.14. Hampshire & Isle of Wight Wildlife Trust was disappointed that the draft plan showed regional household water use (per capita consumption) would only drop to 115 l/h/d by 2050, despite Defra's national target to reduce household consumption to 110 l/h/d by 2050. It wanted to see much more ambition considering the South East was a particularly water stressed area and facing significant water supply deficits. It also noted the huge potential in reducing non household demand and queried the lack of reference to the potential role of water neutrality in the plan.
- 16.15. RSPB encouraged greater ambition on PCC with a target of 110 l/h/d by 2040, noting that Denmark had already achieved 104 l/h/d. It also wanted more detail in the regional plan on the actual demand management measures proposed, and questioned why the plan hadn't looked at water

neutrality given the position in Sussex. Blueprint for Water and Sussex Wildlife Trust similarly supported the planned PCC reductions with policy support, stating that the Government should understand that the earlier policy changes are made the sooner water savings to protect the environment could be delivered. It also requested further details on the individual measures being planned, and confirmation in the final plan on achieving the Government's EIP interim targets.

- 16.16. The Group Against Reservoir Development (GARD) noted that under the proposals in the draft plan Thames Water and Affinity Water failed to achieve the Government target of 110 l/h/d in 2050 by a large margin. It stated that if both companies meet the Government's target, the need for new supplies in areas potentially supplied from the SESRO reservoir would be reduced by a total of 234Ml/d.
- 16.17. South East Rivers Trust highlighted the EIP and its roadmap on water efficiency in new developments and retrofits over the next decade. However, it noted that there was still no certainty on when the necessary regulations will come through. It urged WRSE, along with its member companies, to continue its pressure and call for minimum standards and building regulations to be brought in immediately. The Trust said that new homes should not have an automatic right to connect unless these standards are reached.
- 16.18. Thakeham homes highlighted how it considered the construction industry can help balance the increase allowed for in other industries, noting that the production of water-efficient houses with significant water harvesting would reduce demand on water supply. For industries where significant increase in water consumption has been allowed for, it would be keen to see similar pressure applied on water efficiency and demand management. ESP Water considered that to achieve the tough targets on customer behaviour change, WRSE should involve the NAV companies in this region, particularly as the NAV market is growing rapidly and the size of the sites increasing.

Individual responses

- 16.19. Many individual respondents supported greater water efficiency, but urged WRSE and the water companies to go further than their current plans. Metering and tariffs were identified as a key part of the solution by some respondents, although others questioned the impact on customers, particularly vulnerable customers. The need for lobbying to secure earlier introduction of Government interventions was also supported in responses. It was also suggested that the planned abstraction reduction should not be linked to progress in achieving demand management savings, as environmental action should be a priority.
- 16.20. Some respondents urged the Government to implement minimum water standards for products earlier, by 2030, and to introduce new building regulations by 2040, noting WRSEs analysis that this could provide an additional 300 MI/d, reduce water use to 109 l/p/d and reduce the cost of the plan by £0.5billion, protecting the environment and reducing customer bills.
- 16.21. There was strong support for the planned investment in demand management measures, although some respondents questioned the details of what was actually proposed, and sought evidence on deliverability and certainty of achieving the levels outlined in the draft regional plan. Early evidence of reduced personal consumption was needed, as behavioural change can take time to achieve. The suggestion of learning lessons from other public behaviour change campaigns was highlighted.

WRSE's work since the draft regional plan was published

- 16.22. Since the publication of the draft regional plan the WRPg has been amended, and the Government's Environmental Improvement Plan (EiP) published, which have necessitated changes to the approach to water efficiency in the plan.

- 16.23. As part of the trajectory to achieving per capita consumption (PCC) reducing to 110 litres per person by day (l/h/d) by 2050, the EIP requires PCC to be reduced from the 2019/20 baseline figures by:
- 9% by 31 March 2027
 - 14% by 31 March 2032
 - 20% by 31 March 2038.
- 16.24. As a consequence, WRSE and our member companies have undertaken additional work on the water efficiency options and proposals in the plan to ensure that the updated policy requirements and regulatory guidance can be met (further details set out below).

WRSE's response to the issues raised

- 16.25. The promotion of water efficiency is strongly supported by customers and stakeholders, both in general terms and through specific proposals such as Portsmouth Water's plans for Universal Metering. Mean water use is around 100 l/h/d, however the average is 145 l/h/d due to a moderate proportion of households being higher water users. Some of these use high levels of water for medical reasons, some due to leaks in their supply pipes, leaking toilets and fittings and other customers choose to use the levels that they want or can afford to pay for. Smart metering and targeted research of the high users, both of which are planned proposals in the early years of the regional plan will help understand their water usage patterns more.
- 16.26. Achieving the levels of water efficiency required by Government requires significant water company investment and customer behavioural change. WRSE and our member companies are developing and implementing strategies to achieve the planned savings, but the scale of the change required should not be under-estimated. Whilst action by the water companies in terms of educational and promotional activity, as well as water efficiency programmes, fittings and water audits, a significant step change in customer behaviour will be needed to ensure the company and WRSE strategies are effective and sustained. Even with this, the full level of water

savings can only be achieved with Government policy interventions (such as water labelling, building regulations changes and other measures) as well, not all of which have been funded or committed to. The responses WRSE has received, and the recent NIC Report, says the Government should do more. WRSE and other regional groups and the water companies will continue to lobby the Government to act.

- 16.27. The draft regional plan set out WRSE and our member companies' plans for significant investment in water efficiency to reduce domestic and non-household demand, supported by Government interventions. These would enable at a regional level for PCC to be reduced to 115 l/h/d (normal year), based on an assumed level of Government interventions known as Government led B.
- 16.28. WRSE modelled and tested various different levels of Government interventions as part of the preparation of the draft regional plan. The differences between the profiles are the timings of when the three levels of Government interventions are adopted. The low intervention includes water labelling of all water using products, which has already been committed to by Government. The medium intervention includes water labelling and then also includes minimum standards for all water using products. The high intervention includes water labelling, minimum standards, and new building regulations. Government led B, the basis for the draft regional plan, relies on low until 2040, medium from 2060, and high from 2080 (interim between 2040 to 2060 to 2080).
- 16.29. Following the updates to the WRPg and the publication of the Government's Environmental Improvement Plan (EIP) with its interim targets, WRSE has changed the proposals in the regional plan to meet the Government's requirements. The draft regional plan sought to meet a regional PCC target of 110 litres per person per day (l/p/d) by 2050 in a normal year. The updated WRPg states that each individual company needs to meet a PCC target of 110 l/p/d by 2050 and has clarified this is in a dry year. This had two important consequences.

- 16.30. Firstly, if the PCC target is met, then the projected deficit between the demand and the supply of water in 2050 under pathway 4 reduces from approximately 1,370 MI/d (if only leakage targets and non household consumption targets are met) to approximately 950 MI/d (if leakage targets, PCC targets and non household targets are met). This means that there less new water resources developments are required over the planning period.
- 16.31. Secondly, however, this new target marks a significant shift in policy with important implications for companies, who now become increasingly reliant on Government-led demand management interventions to make the demand management savings required to meet this target. Currently, the Government has committed to deliver policies that could help to reduce household PCC but has not announced a timetable to do so.
- 16.32. The lack of clarity over Government commitments and timescales adds significant risk to the revised draft plan, as the total demand savings across the region associated with Government policies is over 400 MI/d over the planning period. WRSE have therefore also modelled different timescales for different combinations of the Government low, medium and high interventions to review potential risks and impacts to the regional plan.
- 16.33. Following investigation and assessment of the options, WRSE has adopted a reliance on a higher assumed level of Government interventions, Government led C+, compared to Government led B, which was the basis for the draft regional plan. The change in the level of reliance on Government-led interventions between the plans is shown in the table below. Both the draft regional plan and revised draft regional plan use the high Government-led interventions scenario, but the delivery times are accelerated for the revised draft regional plan – assuming the full savings will be achieved by 2050, compared to 2095 in the draft regional plan. Further details are set out in the revised draft regional plan.

Plan	Low	Medium	High	Regional PCC in 2050 (l/p/d)
	(Water labelling)	(Water labelling + minimum standards)	(Full Government support)	
Draft regional plan BVP (Gov-led B)	6 l/p/d impact	Additional 6 l/p/d impact (total impact 12 l/p/d)	Additional 12 l/p/d (total impact 24 l/p/d)	115
	Implemented from 2025, with savings achieved by 2040	Implemented from 2060, with savings achieved by 2075	Implemented from 2080, with savings achieved by 2095	
Revised draft regional plan BVP (Gov-led C+)	6 l/p/d impact	Additional 6 l/p/d impact (total impact 12 l/p/d)	Additional 12 l/p/d (total impact 24 l/p/d)	108
	Implemented from 2025, with savings achieved by 2040	Implemented from 2030, with savings achieved by 2045	Implemented from 2035, with savings achieved by 2050	

- 16.34. With the incorporation of the interim targets from the Environmental Improvement Plan and the commitment to dry year 110 l/h/d in the revised draft regional plan, demand management plays an even more significant role in the regional plan. There are significant under-performance and under-delivery risks attached to securing the levels of water efficiency required, not least as they are not within the control of a single party, requiring collective and co-ordinated action by WRSE and the water companies, consumer groups, Government, local authorities, and ultimately by household and non-household customers.
- 16.35. The regional plan and company WRMPs set out alternative strategies and monitoring plans to manage and mitigate these risks, through WRMP and WRSE Annual Reviews, and the 5 yearly plan making cycles. This monitoring, review and action is essential as otherwise, the ultimate risks of non delivery would be borne by customers (drought restrictions) and the environment (drought permits and orders). Mitigation actions for under delivery will need to include bringing forward alternative strategies and options where under performance is identified.
- 16.36. WRSE has undertaken additional sensitivity and scenario testing for the revised draft regional plan, particularly around the delivery of demand

management measures, including the reliance on Government Interventions, to ensure that the regional plan is able to adapt to any performance issues that may arise. WRSE's assessment has shown that the incorporation of the Government's Environmental Improvement Plan interim targets into the revised draft regional plan increases the level of demand management savings earlier in the planning period, but also increases the cost of the plan. Meeting the Government's requirements will have an impact on customer bills. The details of customer bill impacts will be set out by our member companies in their revised draft regional plans, and in their business plans.

- 16.37. Modelling also shows that failure to achieve the Government Interventions could increase the cost of the regional plan by £2billion and lead to a number of additional schemes being required, including the Severn Thames Transfer proposal.

How the revised draft regional plan has changed in response

- 16.38. WRSE and our member companies are committed to achieving significant reductions in water use, working in close partnership with their household and non household customers.
- 16.39. Following the updates to the WRPG and the publication of the Government's Environmental Improvement Plan with its interim targets, WRSE has changed the proposed level of reductions in the revised draft regional plan to meet the Government's required 110 l/h/d (dry year) by 2050, and the interim targets from the Environmental Improvement Plan.
- 16.40. As illustrated in the table below, the proposals are to achieve 108 l/h/d in a dry year at a regional level by 2050. At a company level the draft regional plan will achieve between 102 l/h/d and 109 l/h/d.
- 16.41. Achieving this higher level of water efficiency however, requires WRSE to rely on a higher assumed level of Government interventions, Government

led C+, compared to Government led B, which was the basis for the draft regional plan. Further details on this are set out below.

WRSE and company PCC reduction by 2050

Company	2019/20 PCC (l/person/d)	2025/26 NYAA PCC (l/person/d)	2025/26 DYAA PCC (l/person/d)	2050 DYAA PCC (l/person/d)
Affinity Water	152.8	132.6	144.2	109.3
Portsmouth Water	149.9	155.5	161.6	102.0
SES Water	143.3	135.0	146.6	104.3
South East Water	143.1	134.0	139.7	108.5
Southern Water	126.5	126.8	138.0	105.9
Thames Water	144.9	136.9	141.0	108.4
WRSE	144.1	135.1	142.0	107.9

16.42. Achieving these levels of reductions however, can only be achieved with an assumed higher level of Government interventions in the revised draft regional plan, Government led C+, compared to Government led B in the draft regional plan, as described in paragraph 16.33 above.

16.43. WRSE and our member companies will co-ordinate their demand management activities, including collaborating on water efficiency campaigns for customers with other regions and customers. The potential value of a national co-ordinated programme or campaign to support societal change in valuing water and promoting water efficiency will also be explored working with other regions and companies, and with other stakeholders and partners.

16.44. They will also work closely with other regions and water companies in continuing to lobby Government to ensure that necessary policy and legislative measures to implement water efficiency measures are implemented as early as possible.

16.45. WRSE and the six companies will monitor and publicly state their progress towards achieving the demand reduction targets. The scale of the challenge cannot be under-estimated, and WRSE and the companies recognise the importance of monitoring and reviewing delivery performance, feeding directly into WRMP Annual reviews and WRSEs regional monitoring plan.

16.46. The performance against targets will form a key indicator reviewed as part of the next cycle of regional plans and WRMPs (due for finalisation in 2028/29). Any risks relating to the achievement of the planned levels of demand reduction will be assessed and incorporated into those plans, and could potentially lead to decisions that further water resources developments may be needed as a consequence, to ensure security of customer supplies over the plan period.

17. Reliance on drought options

What did the draft Regional Plan propose

- 17.1. The draft regional plan identifies two types of drought measures that it needs to rely on to meet future water needs. The first is drought management measures to encourage and restrict water use by customers, and the second is the use of drought permits and drought orders to temporarily increase supplies by taking more water out of the environment during a drought and mitigating environmental impacts of doing so.
- 17.2. The draft regional plan explained that WRSE will need to continue to rely on temporary restrictions on customers' water use during droughts to help reduce demand for water. Temporary use bans or 'hosepipe bans' on households and non-essential use bans on businesses contribute nearly 300 million litres per day to the draft regional plan, during periods when demand for water is at its highest. They are still needed in the first 10 years of the plan, in line with the water companies' drought plans. However, as we make our water supplies more resilient, we expect them to be needed less frequently in the future. The draft regional plan explained that if we were to stop using them, new water sources would need to be developed in their place.
- 17.3. For drought permits and drought orders, the draft regional plan explained that of the 78 drought permits and orders currently available to water companies in the South East 53 of them have been excluded from the draft regional plan because of the potential impact they would have on the environment. Of the remaining 25 drought permits and orders available, 13 drought permits and orders will continue to be used in the early years of the plan until the region reaches 1 in 500-year drought resilience in 2040. After 2040, drought orders and drought permits will only be used if we experience a drought more serious than a 1:500 year event.

Summary of issues raised in responses

Regulatory and other Government responses

- 17.4. The EA noted that the draft regional plan does not include the planned use of any drought permits and orders post 2040, once 1 in 500 resilience is met. Whilst the WRPG states that water companies should plan to use drought permits and orders less frequently in the future, particularly in sensitive areas, the EA stated that it would expect WRSE and the regional plan to provide explanation and justification that not including any drought permits post 2040 is the most appropriate approach. It noted that it did not appear that a sensitivity test looking at the extended planned use of drought permits and orders had been presented in WRSE's Investment Modelling Results report, published alongside the draft regional plan. The EA also stated it was aware that WRSE was working to ensure full utilisation of options before relying on drought permits and orders, to ensure that the model better reflects the expectation that all available resources are fully utilised before relying on potentially damaging drought measures. It welcomed this improvement to the modelling.
- 17.5. The EA noted that whilst WRSE had included the benefits of TUBs and NEUBs in helping to reduce demand, in line with the WRPG, it would like to see how WRSE considered the impact of its proposed demand management strategies and how this could impact customer behaviour and assumed savings from TUBs and NEUBs during a drought.
- 17.6. Ofwat noted that the best value plan included drought demand management throughout the planning period and included drought intervention until 2041. It requested that in the final plan, WRSE should describe how the investment model deals with drought permits and orders once new options have been built, to better understand how options work together and how large schemes are optimised. It said that WRSE needed to explain in its final plan how these changes compare with the benefits of increased drought resilience, the effect maintaining the use of drought

orders and permits would have on the analysis (as WRSE had coupled the removal of these options with the 1 in 500 year level of drought resilience).

- 17.7. Ofwat also stated that WRSE should review how drought orders and drought permits are utilised, as WRSE's model seemed to be using them preferentially due to their low cost (despite the operational usage restrictions). Like the EA, Ofwat understood that since publication of the draft regional plan WRSE had made a change to the approach to utilisation within the regional model to ensure that drought permits and orders were being used appropriately in normal years and dry years in relation to other schemes. Within the final plan WRSE should provide the details of model changes made, along with the impact that these changes have had on regional programme selection, timing, and scheme utilisation.

Other organisational responses

- 17.8. Hampshire and Isle of Wight Wildlife Trust was very concerned that between 2025 and 2045, the plan states that 13% of the region's water supply will come from drought orders and permits. It was unconvinced that the drought permit wouldn't have a detrimental impact on the internationally renowned and legally protected chalk streams such as the River Itchen SAC and SSSI. It considered that where there was uncertainty in the impacts on designated sites, WRSE should adopt the precautionary principle ensuring the needs of the environment are definitely being met until the evidence shows that any additional abstraction would not result in unacceptable impacts on it.
- 17.9. Support was expressed for the retention and use of TUBS by the CLA, considering it to be a valuable option that WRSE needed to retain within its demand side measures in the draft regional plan. CLA commented that it considered TUBS should be imposed before spray irrigation bans on the agricultural sector.
- 17.10. Waterwise similarly noted the proposed retention of TUBS and NEUBs in the short to medium term and considered both to be potentially useful tools to reduce discretionary water use during dry weather periods, and may also be relevant during peak demand events. It considered it would be important

that there are strong communication plans in place for such measures, to include water retail companies, and that data is collected and their impact evaluated.

Individual responses

- 17.11. Some individual respondents were concerned about the reliance on drought options in the draft regional plan, highlighting specific chalk stream abstractions that were considered to be unacceptable in drought conditions. Others called for more flexible abstraction licences to allow for more abstraction in the winter when there is excess flow, and to store it in above or below ground reservoirs for use in the drier months.
- 17.12. There was recognition of the need for TUBS and NEUBs, and the role these can play in raising awareness and educating customers of the need for action to reduce water use generally, as well as in droughts. However some respondents were concerned that reducing frequency of TUBs from 1 in 5 years to 1 in 10 years from 2030 onwards would be at a time when drought permits on chalk rivers including the River Itchen and Test would still be being used, and this was not considered to be acceptable.

WRSE's work since the draft regional plan was published

- 17.13. Where our member companies have updated their list of available drought options, and environmental assessments of drought options since the draft regional plan, these have been incorporated into the regional plan environmental assessments.

WRSE's response to the issues raised

- 17.14. The decision making around excluding drought order and drought permit options from the plan was made by WRSE and the water companies, in consultation with the EA. Individual assessments of the options were made, and then shared for discussion with the EA, with the outcome being that 53 of the 78 options were excluded (many of the individual drought options are

in very sensitive and highly designated environments). The assessments took this into account, whilst also considering the availability of water resources in the area and the deliverability of new water resources options to meet any deficits.

- 17.15. The draft regional plan was based on the use of drought permits and orders stopping when 1 in 500 year drought resilience is achieved. Over the longer term, drought orders and drought permit options will remain available for selection in company drought plans for very extreme drought events, beyond the one in 500-year resilience that the regional plan will achieve.
- 17.16. There was both support and opposition to the reliance on drought permits and orders. Supporters considered that the continued use of them is appropriate in extreme events. Those opposed, wanted their use to end sooner. WRSE's position is considered to be balanced and aligns with the policy position which was consulted on in 2022. In the near term, some WRZ deficits cannot be met other than through reliance on drought permits and orders.
- 17.17. In the Test and Itchen catchments, as an example, the deficits arising from current and planned licence changes, and the time necessary to provide replacement water supplies is why options have been retained in the plan for the time being, despite the sensitivity of those environments. As noted in Section 19 of this document, due to risks relating to the delivery of the Hampshire Water Transfer and Water Recycling Project, there is the risk that Southern Water may need to seek to rely on these options for longer than assumed in the draft regional plan.
- 17.18. Some respondents considered that it was not possible to reach conclusions on the acceptability of drought options without considering the environmental effects of the water resources options that may be required as a result of removing drought options from the plan, and/or argued that there could be an argument to retain them if one in 500-year resilience could not be secured in a sustainable way.

- 17.19. WRSE will continue to liaise closely with the EA, and with Natural England, over the assessment of environmental effects associated with the drought options and other options in the plan, to ensure that decisions are taken having regard to environmental assessment outcomes. The retention of individual drought order and permits as options will continue to be reviewed through future plan cycles.
- 17.20. In relation to the use of TUBs and NEUBs, these were allowed to be used throughout the plan period, recognising the significant contribution towards water savings that these temporary restrictions during droughts can provide. WRSE cannot meet the supply demand balance during 1 in 500 year drought events if TUBs/NEUBs are excluded from the regional plan without significant additional expenditure on new resource options. WRSE recognises that the availability of TUBs and NEUBs in the future could be restricted, for example if Government policy or guidance were to change. This risk will need to be monitored through future plan cycles.

How the revised draft regional plan has changed in response

- 17.21. The updated list of selected drought options is set out in Section 15 of the revised draft regional plan.
- 17.22. As noted in Section 19 of this document, due to potential changes to the delivery dates for the Hampshire Water Transfer and Water Recycling Project, there is the risk that Southern Water will need to seek to rely on drought options within Hampshire for longer than assumed in the draft regional plan. WRSE's investment modelling has identified that neither Southern Water nor any of the other water companies in WRSE have available options that can help to meet Southern Water's deficits over the period until the Hampshire Water Transfer and Water Recycling Project is delivered. Southern Water is seeking permission from the Secretary of State to publish its revised draft WRMP for a targeted further consultation. Further information on this position is set out in Section 19 of this document, and in Section 18 of the revised draft regional plan.

18. South East Strategic Reservoir Option (SESRO) proposal

What did the draft Regional Plan propose

- 18.1. The SESRO Reservoir proposal would store water from the River Thames in a new reservoir in Oxfordshire. The draft regional plan identified the need for the SESRO Reservoir proposal to provide 100 million cubic metres of storage, to provide up to 185 million litres of water per day when required, which will be used to supply the customers of Thames Water, Affinity Water and Southern Water through new transfers. The draft regional plan identified that the SESRO Reservoir proposal needed to be developed by 2040 and that it will be fully utilised by 2050.
- 18.2. WRSE modelled a range of sizes for the SESRO Reservoir proposal. The largest size would provide 150 million cubic metres of storage and produce 270 million litres per day, and would also be fully utilised by 2050 in the more challenging future scenarios. If this larger size was developed, more water could be moved to Hampshire through a new transfer, so the size of the Hampshire Water Transfer and Water Recycling Project could be reduced, and some other smaller schemes would not be required or not needed until later in the planning period. A smaller SESRO Reservoir proposal that would provide 75 million cubic metres of storage was also included in the modelling but was not selected in any of the adaptive pathways. The smaller reservoir does not perform as well against any of the best value metrics and is more costly as other schemes need to be developed as well.
- 18.3. The draft regional plan explained that as part of the best value decision making, a plan with the 100 million cubic metres reservoir performs better against some of the best value criteria we have assessed, particularly those that provide additional benefits to the environment, and which show the potential for adaptability and evolvability. The plan with the larger reservoir performs better against the reliability resilience criteria and also has

additional natural capital benefits compared to the smaller reservoir. However, the differences in best value criteria between the investment plans with different sized SESRO Reservoir proposals is minimal.

- 18.4. The draft regional plan also explained that WRSE's work showed that both the SESRO Reservoir proposal and the STT transfer proposal are needed but the reservoir is a better first option. This is because the reservoir has lower running costs. The plans with the reservoir developed first are less expensive and have lower carbon emissions. Forecasts also suggest that in the future, droughts are likely to occur at the same time across the whole country. This could mean that less water is available to transfer to the South East through the STT transfer proposal as it will be needed in the Midlands and the North West.
- 18.5. If the SESRO Reservoir proposal is not developed, other resources would need to be progressed instead. This would include larger water recycling schemes, such as at Beckton in London. The STT transfer proposal would also need to be developed earlier and would need to provide more water than Water Resources West have currently indicated is available. For the reported pathway, a plan without the SESRO Reservoir proposal would cost £500 million more than the best value plan and have significantly higher carbon costs.

Summary of issues raised in responses

Regulatory and other Government responses

- 18.6. The EA highlighted that the SESRO Reservoir proposal 100 million cubic metres (SESRO 100Mm³) option is selected in the draft regional plan for 2040 to meet all the pathways set out in the adaptive plan. However, it noted that the reasoning provided on the selection of SESRO 100Mm³ shows the decision is marginal when considering best value for the region (SESRO 100Mm³ was selected as it scored higher on some environmental metrics whereas SESRO 150 million cubic metres (SESRO 150Mm³) scored higher on resilience metrics). Given the importance of this resource scheme in providing a much needed strategic solution to the South East, the EA stated that it did not consider that the draft regional plan fully justified the decision

making on the size of the SESRO Reservoir proposal selected. It went on to state that it believed that the larger SESRO Reservoir proposal may offer further benefits that are not fully taken account of or demonstrated in the draft regional plan. The EA stated it expected WRSE to further consider the benefits of accelerating the pace of environmental destination and improving resilience for each size of the SESRO Reservoir proposal. It stated that WRSE should revisit its justification for the size of the SESRO Reservoir proposal selected, better taking account of the resilience and environmental benefits that a larger size of the SESRO Reservoir proposal may provide in comparison to the preferred size of the SESRO Reservoir proposal selected in the draft regional plan. The EA went on to note that the results emerging from its National System Simulation Modelling² work on assessing the drought resilience of the WRMP24 best value plan also suggest that more supply is needed earlier in the planning horizon. It stated that the final regional plan should clearly demonstrate that the preferred programme is best value and that government objectives of reducing abstraction pressure and improving public water supply resilience are being delivered as quickly as possible.

- 18.7. Ofwat recognised that the feedback WRSE receives on its draft regional plan, and potential changes to the estimated cost of the SESRO Reservoir proposal over time, have the potential to influence the need for, timing and sizing of this option further. It noted that while the SESRO Reservoir proposal is currently selected consistently across scenarios within the draft regional plan, the choice of size is presented as a close decision with small differences in associated best value metrics. It noted that the SESRO Reservoir proposal 100Mm³ option is currently selected as it is assessed as performing better against some of the best value criteria, particularly those that provide additional benefits to the environment and society. Ofwat noted that the plan suggests that the SESRO Reservoir proposal 150Mm³ option performs better against the resilience criteria and biodiversity net gain. Overall, Ofwat stated that the scaling of the SESRO Reservoir proposal appears to be a finely balanced decision, based on current costs which Ofwat noted have not changed significantly over recent years and may do so as the option

development work progresses. It stated that WRSE should provide clear and robust evidence around its selection or non-selection of the SESRO Reservoir proposal in its final plan, and present a clearly evidenced and thought-through approach. WRSE should work with the relevant water companies to further evidence the robustness and reliability of the SESRO Reservoir proposal costs given they have not changed significantly in more than five years which is unusual for a project of this scale.

- 18.8. Natural England stated it is unclear why the SESRO Reservoir proposal 100M³ option was selected over the SESRO Reservoir proposal 150M³ option, and the degree to which the larger reservoir option could reduce reliance on options such as the STT transfer proposal, desalination, and water recycling.

Other organisational responses

- 18.9. Oxfordshire County Council, Vale of White Horse District Council and South Oxfordshire District Council expressed their strong opposition to the SESRO Reservoir proposal in the draft regional plan, questioning the need for the scheme, preference for alternative solutions, and highlighting concerns at the scale and potential impacts of the proposals on the local environment and local communities. The County Council noted that whilst the SESRO Reservoir proposal 100Mm³ option was better than the SESRO Reservoir proposal 150Mm³ option it was still much bigger than other reservoirs and too big for this location. Concerns were also expressed about the SESRO Reservoir proposal being selected in all adaptive plan pathways, unlike other proposals, and the relative early delivery of the option in the plan and a preference for other options including demand management and the STT transfer proposal, together with other smaller and local supply schemes to be pursued first. It was suggested that with more focus on alternatives, the SESRO Reservoir proposal would not be required. Detailed comments in opposition to the SESRO Reservoir proposal were put forward, including concerns relating to landscape, flood risk, roads and rights of way, the length of the construction period, impacts on existing canals, carbon, air quality, recreation, biodiversity net gain, archaeology and the need to replace developments displaced by the proposed reservoir. The risks relating to the

² https://www.ofwat.gov.uk/wp-content/uploads/2022/10/NSSM_Phase_2_Final_Report.pdf.

ability to fill the reservoir, delivery risks of such a large project, the perceived lack of clarity on how the reservoir water would be shared between water companies, and the build and operational costs were also commented on.

- 18.10. The Group Against Reservoir Development (GARD) provided detailed comments on the need for new water supplies in the areas potentially supplied by the SESRO Reservoir proposal. It assessed the need for new supplies in these areas to be 1,194 MI/d less than WRSE's figures – 886 MI/d less from over-estimation of need and 308 MI/d less from failure to meet PCC and leakage targets. It stated that this reduced the water needed in 2050 to 1,056 MI/d, compared to WRSE's figure of 2,250 MI/d. The Group Against Reservoir Development considered this reduced need to be 600 MI/d below the total of the 1,650 MI/day of new sources in WRSE's plan by 2049 (by 2075 it said that the planned over-provision of major new supplies in WRSE's plan rose to about 780 MI/d). On that basis the Group Against Reservoir Development argued that there was no need for a decision on any new sources in the area potentially supplied by the SESRO Reservoir proposal before 2035. It went on to state that the potential needs of the area by 2050, from realistic population growth, prioritised environmental (sustainability) improvements and reasonably cautious allowance for climate change, could all be met if the South East water companies meet the Government's PCC and leakage targets, especially Thames Water and Affinity Water. GARD supported the early development of other schemes, including the Teddington Direct River Abstraction (DRA) proposal, the GUC transfer proposal, the STT transfer proposal and Thames to Affinity Transfer. It stated that the Thames to Southern Transfer proposal wasn't needed and should be abandoned.
- 18.11. The Group Against Reservoir Development noted it would provide detailed commentary on the SESRO Reservoir proposal in its response to Thames Water's draft WRMP, likely to cover the adequacy of emergency storage provision, resilience to long duration droughts, reservoir safety issues, environmental impacts, supposed leisure benefits and cost/carbon comparisons with the STT transfer proposal. It commented that there were doubts over water availability to fill the reservoir. On reservoir safety, GARD noted that whilst the issue is primarily for the individual companies, WRSE

has a duty of care to establish the safety of schemes it promotes. GARD's view is that it is not carrying out this duty in the draft plan and in its opinion, this stage of the planning should address safety in the case of detected major fault in the dam wall, the extent of the emergency evacuation of the surrounding population, wave erosion protection and freeboard, and the threat from terrorism.

- 18.12. The Wantage and Grove Campaign Group commented on details of the SESRO Reservoir proposal, expressing its opposition. It considered that the construction of SESRO does not add new water supplies to the South East, and that flow records show it would have been impossible to fill the SESRO Reservoir proposal between May 1975 and December 1976 (the '1976 Drought') so in a similar period in the future it would be a huge white elephant and of no use whatsoever. The Group also commented on other detailed aspects, including landscape impact, environmental impact and carbon.
- 18.13. RSPB noted the plan makes clear that constructing the SESRO Reservoir proposal is vital in securing environmental resilience across the South East, stating it is essential that the scheme is shown to be necessary, and that there are no other more suitable options, before there are impacts to the natural environment from the scheme. It also commented on inclusion of wetted environments within the scheme.
- 18.14. CPRE was very critical of the priority given to the SESRO Reservoir proposal. It considered the development not to be scalable or adaptable and to have considerable risks and environmental damage during the construction phase, not just on the 10 square kilometre site but in the surrounding area and access roads. CPRE found it difficult to believe that the environmental impact would be anything but severe. Beyond the construction phase it considered that any restoration of habitat (or even the creation of new habitat) will take decades. It stated that if the SESRO Reservoir proposal is to be progressed at any time in the future it urged that a full, transparent and independent study of the environmental and greenhouse gas emission consequences be undertaken. CPRE also stated it believed that a portfolio of smaller distributed reservoirs (such as Havant Thicket Reservoir and Broad Oak

Reservoir) combined with recycling schemes could provide a realistic adaptable solution.

- 18.15. Oxford Sailing Club supported the potential development of leisure facilities at the SESRO Reservoir proposal and offered itself as a key partner in the formation of a Strategic Leisure Users Committee reporting to the WRSE/TW consultation leadership and assisting in the consultation and development of a leisure users blueprint for the proposal.
- 18.16. The South East Rivers Trust recognised that the SESRO Reservoir proposal is a potentially important resource for increasing resilience of supply across the South East and enabling the reduction in abstraction from the environment, and would like to see a decision on this brought forwards.

Individual responses

- 18.17. A significant number of respondents expressed their opposition to the SESRO Reservoir proposal, with many indicating support for the STT transfer proposal (and/or the STT transfer proposal canal option) in preference to the SESRO Reservoir proposal, and questioned why the SESRO Reservoir proposal was selected ahead of the STT transfer proposal in the draft regional plan. Respondents stated that the selection of the SESRO Reservoir proposal as a fixed option early in the plan period meant that the plan could not be adaptive. There was support for water recycling and desalination options as alternatives to the SESRO Reservoir proposal, and for shorter term increases in supply that should be prioritised, including water transfers, whilst longer term needs could be better defined. Other comments questioned why water was to be transferred to London and Hampshire.
- 18.18. Numerous and detailed comments highlighted objections to the scale of the SESRO Reservoir proposal and the risks and environmental impacts on the environment and local communities during its construction and operation. Opposition was expressed to the lengthy construction period and construction impacts on the local environment and local communities. In relation to the detail of the SESRO Reservoir proposal itself, respondents identified concerns that the environmental impacts during construction and

operation of the reservoir, including flood risk, dam failure, landscape and visual impacts, construction impacts, and changed weather patterns amongst other issues had failed to be addressed in WRSE's work.

- 18.19. Some respondents objecting to the Hampshire Water Transfer and Water Recycling Project (see Section 19 of this Consultation Response document) noted that the draft regional plan stated that the larger SESRO Reservoir proposal 150Mm³ option influenced the size of the water recycling scheme. They expressed in principle support for the larger SESRO Reservoir proposal in response, but also acknowledged that they felt insufficient information on the impacts of the different scale of SESRO Reservoir proposals had been made available.

WRSE's work since the draft regional plan was published

- 18.20. The RAPID Gate 2 submission for the SESRO Reservoir proposal was submitted by Thames Water and Affinity Water in November 2022. This included updated scheme information from the earlier Gate 1 submission. Updated information has been incorporated into the investment modelling for the regional plan, and any new or updated environmental information fed into the regional plan and WRMP environmental assessments. WRSE's updated modelling for the revised draft regional plan has taken account of this updated information.

WRSE's response to the issues raised

- 18.21. The draft regional plan identified that the SESRO Reservoir proposal was a key part of the regional solution, selected under all 9 of the adaptive planning pathways for delivery by 2040. Contrary to the suggestions made by some respondents, this did not and does not mean that the selection of the SESRO Reservoir proposal is fixed in the modelling, or that in some way the choice of the proposal has been pre-determined by WRSE and our member companies. The SESRO reservoir proposal is consistently selected in investment model runs undertaken for the regional plan as a necessary and appropriate key scheme within the overall regional plan solution to the

future water resources challenges that the region is facing. In undertaking the modelling, all other alternative options were available for selection however they were not selected ahead of or instead of the SESRO reservoir proposal. WRSE's analysis indicates that this is because plans which exclude SESRO are more expensive, result in more carbon emissions, and do not deliver the same environmental or resilience benefits, particularly under severe future scenarios.

- 18.22. The responses received to the draft regional plan consultation included significant strong objection to the SESRO reservoir proposal. WRSE acknowledges the long-standing and significant levels of opposition that have been expressed against the SESRO reservoir proposal in the consultation responses. These in many respects echo the comments submitted on the earlier emerging regional plan consultation, and those submitted directly to Thames Water on the separate WRMP and other consultation events it has run in relation to the scheme.
- 18.23. The SESRO reservoir proposal is a large scale infrastructure project that is proposed to be constructed in the open countryside to the west of the A34 in Oxfordshire. There are potentially significant impacts associated with its construction and future operation that will need to be fully assessed, mitigated and/or compensated for in order to secure the necessary planning and other consents for its construction and operation. These include consents relating to reservoir safety, flood risk, planning, abstractions and discharges etc. The scheme promoters will need to ensure that the application proposals that they design and assess robustly address and overcome the environmental constraints facing the scheme and deliver the significant potential environmental and community benefits of the reservoir proposal. This is an essential part of those applications for consent, and failure to do so would risk those consents not being granted at that point in the future.
- 18.24. At this plan-making stage, a series of environmental assessments of the proposals in the draft regional plan were undertaken. These include assessments of the SESRO reservoir proposal and the other options available

for selection in the investment modelling undertaken for the regional plan, as well as assessments of the plan as a whole including in combination assessments of the options selected in the plan. These assessments have been partly undertaken by WRSE and partly by our member companies utilising existing available environmental and other information, including that gathered and assessed as part of WRMP preparation and the RAPID gated process. The assessments for the regional plan identify the potential impacts associated with the SESRO reservoir options, and WRSE's decision making on the proposals in the plan take these assessment outcomes into account in the best value decision making. The level of detail undertaken for these assessments is consistent with that expected for a plan such as the regional plan and individual WRMPs. Further and more detailed environmental and other assessments will be undertaken as part of subsequent applications for consent.

- 18.25. A number of respondents questioned how secure the sources of water to fill the reservoir are, suggesting that under low flow and drought conditions there would be insufficient water available, especially with the impacts of climate change. Some respondents stated that in conditions akin to the 1975/76 drought there would be insufficient water available. WRSE and our member companies have used detailed stochastic modelling of potential drought events, including those more severe than have been experienced in the past, to test the resilience of existing supplies and new options in the future. This work demonstrates that, contrary to respondents views, there is sufficient water available during periods of high flow that will be available for abstraction for the SESRO reservoir proposal, for subsequent storage and release when needed. As a result, the SESRO reservoir proposal facilitates 'new water' to be created for the South East, and is an option that is resilient to the impacts of climate change.
- 18.26. Although of a smaller scale, Thames Water's existing Farmoor reservoir operates in the same way, and is filled during winter high flow periods. The Thames supports this abstraction in the winter and spring but then flows in the river will not support sufficient abstraction during a prolonged dry summer and autumn. In 2022 Thames Water had an exceptional shortage of

rainfall which was accepted as such by the Environment Agency, enabling Thames Water to justify the requirement for drought permits to manage the risk of further deterioration in storage. Even in that exceptional case, Farmoor reservoir storage was maintained at 61% full at its lowest storage point. The drought permits were applied for because of the risk that the drought would become even more severe, however in the event they were not used.

- 18.27. As stated above, the SESRO reservoir proposal will be filled during winter high flow periods and will provide resilience through the significant extra volume of storage it provides to support customers of Thames Water, Affinity Water and Southern Water. This increased storage volume means that in a repeat of the 2022 drought, storage would be capable of being maintained at higher levels than currently, because of the overall greater volume available, thereby delivering significantly greater resilience.
- 18.28. In the draft regional plan, the SESRO Reservoir proposal was selected alongside a number of other key regional schemes, the combination of which provided a resilient regional and sub-regional water resources solution. The ability to operate the SESRO reservoir proposal to supply customers of a number of companies and Water Supply Zones, alongside schemes such as the London water recycling option (Teddington or Beckton), the Havant Thicket Reservoir, Hampshire Water Transfer and Water Recycling Project, and the Grand Union Canal transfer all form part of the regional plan's proposals for increased connectivity and water transfer within the region.
- 18.29. Four feasible size variants of the SESRO reservoir proposal are available for selection in the WRSE investment modelling, 75, 100, 125 and 150 Mm³ (as well as options that developed the reservoir in phases). The assessment undertaken for the draft regional plan showed that balancing of the benefits and disbenefits of the options revealed that the decision was close between the 100 Mm³ and 150 Mm³ options, with the two size variants each having different benefits and trade-offs with other schemes selected across the region, particularly desalination and recycling options. The draft regional plan selected the SESRO reservoir proposal at 100 Mm³ as it performed

better against some of the best value criteria WRSE assessed, particularly those that provide additional benefits to the environment and society. The larger 150 Mm³ reservoir performed better against the resilience criteria and biodiversity net gain metrics, but overall had a slightly lower score against the best value metrics compared to the 100 Mm³ reservoir.

- 18.30. In their draft regional plan consultation response, the Environment Agency made a number of recommendations for WRSE to consider in order to ensure the regional plan is robust. This included reviewing long-term demand management ambition and mitigation for uncertainty in delivery of short-term demand reductions, and revisiting the justification for the size of the SESRO reservoir proposal, taking account of any benefits of earlier delivery of environmental ambition and public water supply resilience that may be provided by a larger SESRO reservoir proposal, ensuring that the final regional plan is best value for the region. Ofwat also requested that WRSE gave further consideration to the size of the SESRO reservoir proposal. WRSE has undertaken analysis for the revised draft regional plan in response to this and other comments on the size of the SESRO reservoir proposal. This is summarised below, and set out in the revised draft regional plan.
- 18.31. The investment modelling for the revised draft plan (as explained in Section 13 of this document) comprises five steps, from least cost to best value plans. The modelling completed for the revised draft plan identified that the SESRO reservoir proposals remains a core part of the least cost plan. WRSE's analysis of investment model runs shows that the principle of a regional plan with SESRO still provides more resilient and better value plans overall compared to plans which exclude the reservoir. To test this we completed model runs with SESRO included or excluded from the plan, at different potential option sizes.
- 18.32. The best value plan investment modelling confirmed that, as for the draft regional plan, plans with the SESRO reservoir proposal as a core scheme are cheaper and achieve better overall best value metric scores. However, the modelling of different size options for the SESRO reservoir proposal for the revised draft plan has produced different outcomes than the draft regional plan.

- 18.33. In the draft regional plan the 100 Mm³ and 150 Mm³ size SESRO reservoir proposals were extremely close in metric scores, but the 100 Mm³ reservoir came out as slightly better value. However, for the revised draft regional plan the modelling outputs demonstrate that a plan with the SESRO reservoir proposal at 150 Mm³ provides better overall BVP scores than the 100 Mm³ and 125Mm³ options. The plan with the SESRO reservoir proposal at 150 Mm³ outperforms the plans with other size variants in the resilience and SEA benefit scores. This indicates that the plan with the 150 Mm³ SESRO reservoir proposal is more resilient and better able to adapt and evolve to future challenges compared to the plans with smaller SESRO reservoir proposals. The difference between the plans remains close, however the overall cumulative metric scores leads WRSE to conclude that a regional plan with the SESRO reservoir proposal at 150 Mm³ offers better value than the plans with the other smaller sizes of the SESRO reservoir proposal.
- 18.34. In all cases, SESRO is fully utilised by 2050 which indicates that the reservoir would be fully utilised early on in the planning period and no later than ten years after it is brought online (this is ten years into an asset life of 250 years). The larger SESRO reservoir proposal is able to support more water resources zones with the delivery of their sustainability reductions, and would provide water to five of the six companies in the South East, adding additional flexibility across the network.
- 18.35. Through the modelling work we have shown that the larger SESRO reservoir proposals (125 Mm³ and 150 Mm³) are able to support more water resource zones through a critical extreme dry year. The larger reservoir (150 Mm³) is able to support the implementation of sustainability reductions quicker than the smaller size reservoir options. This will allow companies to accelerate reductions and protect vital habitats across the South East in a more flexible way. It is also provides greater resilience capability to the operational loss of an existing raw water storage reservoir for planned or unplanned maintenance.
- 18.36. The larger reservoir is also better at dealing with potential underperformance of any of the demand management reductions schemes (Government or company) and provides time for the region to develop alternative solutions should key policies fail to be delivered. Selection of the larger reservoir also helps off-set the need for larger scale desalination and water recycling plants in London in different future scenarios (as could be required with smaller SESRO reservoir proposals).
- 18.37. Based on the outcomes from modelling and the consideration of available options and plans, WRSE has determined that the best value plan investment model run with the SESRO reservoir proposal at 150Mm³ is the preferred basis for the revised draft regional plan. Best value plan investment modelling for the three different size options of the SESRO reservoir proposal can produce viable solutions to the scale of the regional challenge being faced, however the plan with the SESRO reservoir proposal at 150 Mm³ produces better average best value plan metric scores, and is more resilient to dealing with known potential future risks.
- 18.38. As noted above, WRSE received extensive and numerous consultation responses on the draft regional plan regarding the environmental impacts of the different sizes of SESRO, including comments that a larger reservoir would have more negative environmental impacts compared to a smaller reservoir. For the reasons outlined above, notwithstanding these comments and objections, WRSE considers that the larger reservoir option is the most appropriate proposal to be included within the revised draft regional plan.
- 18.39. The principle of this strategy is to develop the SESRO reservoir proposal to the largest size possible at the site, which is currently 150 Mm³. If further detailed design and site investigations reduce this capability, or if the Secretary of State determines otherwise in relation to the WRMP or a DCO application, then WRSE considers that the scheme should still be developed based on this principle.
- 18.40. The selection of the SESRO reservoir proposal as part of the revised draft regional plan, and individual company WRMPs is a key step towards the progression of the proposal, subject to the finalisation of the statutory

WRMPs including approval of the Secretary of State to publish the final WRMPs.

- 18.41. The scheme promoters will continue to progress the detailed technical work on the SESRO reservoir proposal, both through the RAPID gates process, and for the necessary applications for planning and other consents. There will be multiple additional stages of consultation and engagement on the proposals as part of this process. It is important to note that identification of the SESRO reservoir proposal in the final WRMP establishes the “need” for the proposal. The National Policy Statement for Water Resources Infrastructure (NPSWRI) makes clear that when an application for Development Consent is submitted, the ‘need’ would not be expected to be revisited as part of the application for development consent (see paragraph 1.4.5 of NPSWRI). The application and the examination would focus on the detail of the proposals, considering accordance with the NPSWRI, Planning Act 2008, and other relevant legislation.
- 18.42. Whilst there will be subsequent regional plan and WRMP 5 yearly plan making cycles, the SESRO reservoir proposal would be taken forward into subsequent plans as a ‘baseline’ scheme, in the same way that other schemes are included in the baseline of this regional plan. The need for the SESRO reservoir proposal would not be re-considered as part of those plans.

How the revised draft regional plan has changed in response

- 18.43. The revised draft regional plan continues to select the SESRO reservoir proposal as part of the least cost and best value regional plans.
- 18.44. The regional investment modelling for the revised draft regional plan clearly identifies the significance of the SESRO reservoir proposal as part of the regional plan, providing a strategic water resource to provide water to customers of a number of water companies.

- 18.45. As explained above, the draft regional plan explained that the 100 Mm³ and 150 Mm³ size SESRO reservoir proposals were extremely close in metric scores, but the 100 Mm³ reservoir came out as slightly better value. The 100 Mm³ size option was selected in the draft regional plan but consultation responses were invited on the different sized SESRO reservoir proposal options.
- 18.46. Whereas the draft regional plan selected the SERO reservoir proposal 100Mm³ size option, the revised draft regional plan selects the larger 150 Mm³ reservoir option as part of the regional plan.
- 18.47. Sections 12 and 17 of the revised draft regional plan have been updated to provide a more detailed explanation and justification for the selection of the SESRO reservoir proposal in the regional plan, and for the selection of the larger 150 Mm³ reservoir proposal for the reasons explained above.

19. Hampshire Water Transfer and Water Recycling Project

What did the draft Regional Plan propose

- 19.1. The draft regional plan explained that water recycling is where highly treated wastewater is returned to the environment and used to supplement our natural water supplies. It is used extensively in other parts of the world, such as California and Singapore. The water, which undergoes an extra stage of enhanced treatment, is released at a point where it can support additional water abstraction. Consideration needs to be given to the environmental impact on the watercourse or waterbody that receives the additional treated water so that it does not affect its ecology. In some areas, using an environmental buffer such as a reservoir or lake to store the treated water (mixed with river or spring water, instead of releasing it directly into the environment), provides a more suitable alternative and our plan includes these options.
- 19.2. The Hampshire Water Transfer and Water Recycling Project using highly treated wastewater to supplement the water stored in the new Havant Thicket Reservoir was identified in our draft regional plan. Treated wastewater from the Budds Farm wastewater treatment works would receive additional treatment at a new recycling facility in Havant before being pumped to the reservoir where it would be stored to supplement the spring water supply. The water would then be further treated at a water supply works before being supplied to people in the local area or transferred through new pipelines to supply other areas in both Hampshire and West Sussex. The scheme could deliver up to 60MI/d and the draft regional plan identified that the scheme was needed by 2031.

Summary of issues raised in responses

Regulatory and other Government responses

- 19.3. Ofwat understood that the deployable output for the Hampshire Water Transfer and Water Recycling Project in the draft WRMP24 was incorrect because some assumptions made in the WRSE emerging regional plan were incorrect. It stated that WRSE should work with Southern Water to ensure that the deployable output for this scheme, and other associated option data, is correct and consistent across the final WRMP, regional plan and any RAPID gate submissions, and that any implications of this change on the options selected is thoroughly understood and clearly identified.
- 19.4. Ofwat noted that the size of the SESRO Reservoir proposal selected in the regional plan is sensitive to the size of the Hampshire Water Transfer and Water Recycling Project selected. It noted that the water recycling plant was sized at 15 MI/d within the RAPID accelerated gate two submission and has since been increased to 60 MI/d following WRSE investment model outputs selecting this option. It considered that such an increase in size raises deliverability risks that WRSE needs to consider. Ofwat understood that to understand the impact of the 60 MI/d water recycling plant not being deliverable, WRSE is in the process of running sensitivity analysis to explore sizes less than 60MI/d and modular options. WRSE should include this analysis and consideration of these risks in its final plan.
- 19.5. Natural England commented on the need to ensure that water recycling schemes should be assessed in-combination with nearby water recycling and desalination options. In relation to this option for example, it stated that this meant the Hampshire Water Transfer and Water Recycling Project and Sandown water recycling proposal – and impacts on Solent and Dorset Coast SPA and Solent and Southampton Water SPA/Ramsar.

Other organisational responses

- 19.6. The Solent Protection Society raised concerns about the proposal, including environmental risks and impacts associated with the scheme, including at the water recycling plant location adjoining Langstone Harbour, the tunnel

transfers, and at Havant Thicket Reservoir and downstream of the reservoir. Concerns were also expressed about the treatment technology and risks relating to inadequate or incomplete treatment, and the successful delivery of such a complex project. Alternative water resource solutions were urged to be considered instead. Rowlands Castle Parish Council, Havant Climate Alliance, Green Party – Havant and Havant Friends of the Earth similarly expressed opposition to the Hampshire Water Transfer and Water Recycling Project.

- 19.7. Hampshire and Isle of Wight Wildlife Trust stated that it had been made aware of a number of concerns raised by the community regarding the environmental impact of the Hampshire Water Transfer and Water Recycling Project proposals for Havant Thicket Reservoir. It sought firm commitments, supported by robust evidence, that the proposals would not adversely impact the River Itchen Special Area of Conservation (SAC) or Chichester and Langstone Harbours Special Protection Area (SPA), the Solent Maritime SAC, the Solent and Southampton Water SPA and Ramsar and, Portsmouth Harbour SPA and Ramsar. It also wanted to see clear evidence provided by Southern Water and Portsmouth Water that the Hampshire Water Transfer and Water Recycling Project would not undermine the net gain for wildlife or the ecosystem services provided by the Havant Thicket Reservoir. It stated that in principle, the Trust would not object to a solution such as wastewater recycling that would reduce reliance on abstracting water from our chalk streams. However, the implementation of measures designed to address this issue, should not come at the expense of unsustainable downstream environmental impacts.
- 19.8. Hampshire and Isle of Wight Wildlife Trust also stated that, although out of scope of this plan, it considered that Southern Water's efforts so far hadn't been sufficient in tackling water quality and supply issues, considering that the most recent Environment Agency water and sewage companies environmental report found Southern Water to be performing significantly below target on security of water supply, the worst performing company in the country. This has ultimately led to an understandable level of scepticism within the local community regarding Southern Water's ability to deliver its

wastewater recycling plans without adverse ecological impacts on highly designated sites.

Individual responses

- 19.9. A significant number of individual responses were received opposed to the principle and detail of the Hampshire Water Transfer and Water Recycling Project. Many respondents were concerned that the proposal was not highlighted or discussed before the Havant Thicket Reservoir gained planning permission, and were concerned at the environmental impacts that the recycling scheme could have on the reservoir, local and downstream environments. Respondents also commented that the environmental benefits associated with the reservoir were considered to be lost as a result of this proposal. Some customers expressed the wish to not drink recycled water, and questioned how this could be imposed on them against their wishes.
- 19.10. Some respondents called on WRSE to reject, or defer, the selection of the Hampshire Water Transfer and Water Recycling Project as there were considered to be other cheaper greener plans in the short term, and further options that should be explored and brought forward in Hampshire before water recycling. They considered that these would be more environmentally friendly, as well as cheaper to develop and operate, reducing the impact on customer bills. The 'rejected' list of options was highlighted as containing a number where further investigations are planned, with the potential for some of these to become viable and deliverable in the next cycle of plans, including groundwater schemes, Aquifer Storage and Recovery, and identifying new reservoir options. If water recycling needed to be part of the solution, then respondents also considered that there were a number of other locations for water recycling, including at Peel Common, closer to Southampton where the water was needed. Many and detailed concerns were also raised over the potential environmental impacts and risks seen to be associated with the proposal, with respondents highlighting what they saw as negative impact scores in the SEA Environmental Report. Some commented that water recycling was not the preferred choice of customers.

- 19.11. Other concerns expressed included that decisions were being taken based on current programmes and scheme costs, and that delays to delivery timescales or increased costs could mean that the option ended up not being the 'best value' solution, and that other options should have been selected instead. Respondents also identified technology and delivery risks associated with the scheme, including concerns that this was the single large scheme to meet Southern Water's short-term needs in Hampshire and what would the impact be if it was delayed or refused.
- 19.12. Concerns were expressed about the Hampshire Water Transfer and Water Recycling Project, linking concerns to the ongoing problems with storm discharges to harbours and rivers.

WRSE's work since the draft regional plan was published

- 19.13. Updated scheme information from the ongoing technical work being undertaken by Southern Water has been incorporated into the investment modelling for the regional plan, and any new or updated environmental information fed into the regional plan and WRMP environmental assessments. WRSE's updated modelling for the revised draft regional plan has taken account of this updated information.
- 19.14. In June 2023 Southern Water notified WRSE and the other water companies that following the development of detailed delivery plans, including the potential risks and challenges associated with individual construction projects, it had decided to make changes to the delivery plans for the Hampshire Water Transfer and Water Recycling Project, and a water recycling scheme in Littlehampton, Sussex. As a result, Southern Water is proposing to extend the overall timeline for these water recycling schemes to allow sufficient contingency time to adjust to potential planning, consenting and other challenges which may emerge during construction. If it's unfeasible to resolve the challenges, this could mean it delivers the Hampshire Water Transfer and Water Recycling Project in 2035 rather than 2031.

WRSE's response to the issues raised

- 19.15. The draft regional plan identified that the Hampshire Water transfer and Water Recycling Project was a key part of the regional solution, selected under all 9 of the adaptive planning pathways for delivery by 2031. The Hampshire Water Transfer and Water Recycling Project was selected alongside a number of other key regional schemes, the combination of which provided a resilient regional and sub-regional water resources solution. The proposal is consistently selected in investment model runs undertaken for the regional plan as a necessary and appropriate key scheme within the overall regional plan solution to the future water resources challenges that the region is facing. In undertaking the modelling, all other alternative options were available for selection however they were not selected ahead of or instead of the Hampshire Water Transfer and Water Recycling Project.
- 19.16. The responses received to the draft regional plan consultation included significant strong objection to the Hampshire Water Transfer and Water Recycling Project. These mirror comments submitted directly to Southern Water on the separate WRMP and other consultation events it has run in relation to the scheme, and to Portsmouth Water on its WRMP.
- 19.17. There are potentially significant impacts associated with the construction and future operation of the proposal that will need to be fully assessed, mitigated and/or compensated for in order to secure the necessary planning and other consents for its construction and operation. These include abstractions, discharges and planning consents etc. The scheme promoters will need to ensure that the application proposals that they design and assess robustly address and overcome the environmental constraints facing the scheme and deliver environmental and other benefits associated with the proposal. This is an essential part of those applications for consent, and failure to do so would risk those consents not being granted at that point in the future. This includes overcoming the strong objections to the scheme on water quality and environmental impact grounds.

- 19.18. At this plan-making stage, a series of environmental assessments of the proposals in the draft regional plan were undertaken. These include assessments of the Hampshire Water Transfer and Water Recycling Project and the other options available for selection in the investment modelling undertaken for the regional plan, as well as assessments of the plan as a whole including in combination assessments of the options selected in the plan. These assessments have been partly undertaken by WRSE and partly by our member companies utilising existing available environmental and other information, including that gathered and assessed as part of WRMP preparation and the RAPID gated process. The assessments for the regional plan identify the potential impacts associated with the Hampshire Water Transfer and Water Recycling Project, and WRSE's decision making on the proposals in the plan take these assessment outcomes into account in the best value decision making. The level of detail undertaken for these assessments is consistent with that expected for a plan such as the regional plan and individual WRMPs. Further and more detailed environmental and other assessments will be undertaken as part of subsequent applications for consent.
- 19.19. As noted above, Southern Water's announcement in June 2023 about delivery timescales for the Hampshire Water Transfer and Water Recycling Project reflected the new information and greater understanding of potential challenges to its delivery plans for the scheme. It confirmed that if it's unfeasible to resolve the challenges, this could mean it delivers the Hampshire Water Transfer and Water Recycling Project in 2035 rather than 2031. Southern Water is seeking permission from the Secretary of State for targeted further consultation on specific elements of its revised draft WRMP, including the delivery dates for the Hampshire Water Transfer and Water Recycling Project, and consequential effects on water resources availability in the interim period.
- 19.20. For the purposes of the revised draft regional plan, WRSE's regional investment modelling continues to select the Hampshire Water Transfer and Water Recycling Project by 2031 as a core option in the regional plan. Southern Water needs the proposal as there are no other available alternatives. The company remains under a Section 20 (legal) Agreement commitment with the Environment Agency to use all best endeavours to deliver solutions to offset the impacts of licence reductions on the River Test and River Itchen, and avoid the prolonged reliance on drought permits and orders.
- 19.21. WRSE's investment modelling has identified that no other water companies have available options that can help to meet Southern Water's deficits over the period until the Hampshire Water Transfer and Water Recycling Project is delivered, and that revising the delivery dates for these schemes only affects Southern Water and has no wider effects on the regional plan. As noted in Section 17 of this document, there is the risk that Southern Water may need to seek to rely on drought options within Hampshire for longer than originally planned. The acceptability of reliance on drought orders or permits for longer, or the reliance on any other new options that Southern Water may identify will be resolved through Southern Water's WRMP process.
- 19.22. The selection of the Hampshire Water Transfer and Water Recycling Project as part of the revised draft regional plan, and Southern Water's individual company WRMP is a key step towards the progression of the scheme, subject to the finalisation of the statutory WRMP including approval of the Secretary of State to publish the final WRMP.
- 19.23. Southern Water will continue to progress the detailed technical work on the proposal, both through the RAPID gated process, and for the necessary applications for planning and other consents. There will be additional stages of consultation and engagement on the proposals as part of this process. It is important to note that identification of the Hampshire Water Transfer and Water Recycling Project in the final WRMP establishes the "need" for the proposal. The National Policy Statement for Water Resources Infrastructure (NPSWRI) makes clear that when an application for Development Consent is submitted, the 'need' would not be expected to be revisited as part of the application for development consent (see paragraph 1.4.5 of NPSWRI). The application and the examination would focus on the detail of the proposals, considering accordance with the NPSWRI, Planning Act 2008, and other relevant legislation.

- 19.24. Whilst there will be subsequent regional plan and WRMP 5 yearly plan making cycles, the Hampshire Water Transfer and Water Recycling Project would be taken forward into subsequent plans as a 'baseline' scheme, in the same way that other schemes, which have funding approved, are consented or being delivered, are included in the baseline of this regional plan. The need for the Hampshire Water Transfer and Water Recycling Project would not be re-considered as part of those future plans.

How the revised draft regional plan has changed in response

- 19.25. For the purposes of the revised draft regional plan, WRSE's regional investment modelling continues to select the Hampshire Water Transfer and Water Recycling Project by 2031 as a core option in the regional plan.
- 19.26. Southern Water is proposing targeted further consultation on its revised draft WRMP in Autumn 2023, including on the delivery timescales for the Hampshire Water Transfer and Water Recycling Project, with the risk that delivery could extend to 2035. This could result in Southern Water needing to rely on drought orders or permits in the interim, or to rely on new options not currently identified, and the acceptability of this will be resolved through Southern Water's WRMP process.
- 19.27. WRSE's investment modelling has identified that neither Southern Water nor other water companies in WRSE have available options that can help to meet Southern Water's deficits over the period until the Hampshire Water Transfer and Water Recycling Project is delivered. As a consequence, the potential implications of Southern Water's targeted further consultation on its revised draft WRMP and finalisation are limited to Southern Water's WRMP, and no consequential impacts on other company WRMPs would result. A comparison of the results with and without the delay in Southern Water's schemes shows that there are no changes to other companies plans up to 2050.

20. Severn Thames Transfer proposal

What did the draft Regional Plan propose

- 20.1. The Severn Thames Transfer (STT) proposal could move water from the North West and Midlands to the South East. It would transfer water using the River Severn in Gloucestershire, from where it would be transferred into the River Thames. It would initially transfer water available in the River Severn and water from a new water recycling scheme at Netheridge sewage treatment works. The option selected in the draft regional plan relies on a pipeline transfer of water to the River Thames. The use of the Cotswold Canals as part of the STT transfer proposal, rather than a new pipeline, has been explored but is a more costly option and could not transfer the same quantities of water.
- 20.2. The STT transfer proposal would need to be developed by 2050 in our reported pathway and the high pathway. It could transfer up to 500 million litres per day to South East England. Initially it would transfer water when it is available in the River Severn and from a water recycling scheme at Netheridge, up to 160MI/d by 2050. Additional transfers available post 2050 are dependent on additional sources of water being developed in the Water Resources West region. In the low pathway, the STT transfer proposal is not needed at any point.
- 20.3. In our reported pathway, the STT transfer proposal is needed as well as the SESRO Reservoir proposal. If the SESRO Reservoir proposal is not developed, the STT transfer proposal would be required by 2040, along with other additional schemes.

Summary of issues raised in responses

Regulatory and other Government responses

- 20.4. The EA noted that the STT transfer proposal and its supporting elements were selected in the preferred pathway from 2050 onwards, however, the draft regional plan stated that there are still uncertainties with regards to the STT SROs. Given this option was inter-regional, where potential uncertainties are identified for the STT transfer proposal, the EA stated that it expected WRSE and Thames Water to continue to work with Water Resources West (WRW) and its incumbent water companies to confirm STT's viability, and ensure it is represented consistently in all plans, as well as including any updates to the scheme as a result of the regional plan and WRMP consultations. The EA also noted that there appeared to be inconsistency between WRSE's and WRW's regional plans in the components that make up the STT transfer proposal preferred option, following a misalignment in timetables at the second round of regional reconciliation.
- 20.5. The EA also highlighted that the Minworth recycling option is selected in the preferred plan, providing resource to the Grand Union Canal option from 2040, as well as the STT transfer proposal later in the planning period. As noted in the WRSE plan, the EA commented that there are still concerns regarding the environmental impacts of this option that will need to be resolved. It encouraged WRSE and the relevant companies to continue to engage with WRW to progress this scheme to confirm its viability.
- 20.6. Ofwat noted differences between the WRSE and WRW plans on the timing of the STT transfer proposal, and stated that WRW and WRSE should represent this option consistently in the final plans. Should there be any inconsistencies these should be clearly explained.
- 20.7. Natural England noted that the STT transfer proposal is relied on in the reported pathway and the high pathway, but that it was unclear about the level of confidence that WRSE had in the availability of water to service this

option, without compromising the environmental requirements of the donor regions. Natural England stated it is important not to rely on imports of water from other regions where there is uncertainty about the sustainability of existing abstraction in those regions, something WRSE acknowledged in paragraph 1.93 of Technical Annex 1. Natural England also highlighted that limited information had been provided about this scheme in the SEA and HRA.

Other organisational responses

- 20.8. A number of organisations expressed support for the STT transfer proposal and/or the STT transfer proposal canal option, including CPRE, British Marine, local authorities, and a number of individual canal and waterways organisations including the Stroud Valleys Canal Company, Cotswold Canals Trust, Cotswold Canal Connected Partnership, local authorities including Oxfordshire County Council, Vale of White Horse District Council, West Oxfordshire Council, Wiltshire Council and Cheltenham Borough Council, together with parish councils and elected representative.
- 20.9. Many respondents were concerned that the cost and benefits of the STT transfer proposal canal option had not been accurately assessed or represented, and that the considerable recreation and environmental benefits of a canal based option had been overlooked. Respondents also noted that the STT transfer proposal option was capable of being delivered in phases, with delivery highlighted by them to be much quicker than other options such as the SESRO Reservoir proposal, and with fewer environmental impacts and with much greater environmental and social benefits. The potential for a canal to provide a green-blue environmental corridor, compared to the lack of benefits from a buried pipeline were highlighted. Those opposed to the SESRO Reservoir proposal stated that the STT transfer proposal should be prioritised either before or instead of the SESRO Reservoir proposal, and considered that the carbon and financial cost differences stated in the draft regional plan were overstated. They also commented that with decarbonisation of the energy grid there would be a reduction in the carbon emissions associated with the STT transfer proposal than has currently been assessed.
- 20.10. Other respondents highlighted potential variations to the STT transfer proposal which they considered could deliver additional benefits. These included an opportunity to provide some of the transfer water into the top end of the River Thames and the River Churn to help mitigate climate change effects during drought.
- 20.11. Some respondents commented on the complexity of the option and the interdependencies between a number of different water resources options, including unsupported and supported flows that would represent significant operational risks and complexities. This was considered by some respondents to require second guessing what the weather is going to do months in advance. Some stated that if it is assumed that a supported scheme is required, as had been the consistent position to date, the costs of enabling this would have to be covered to make it available irrespective of the level of use, therefore offsetting part of the volume with unsupported Severn river water was not necessarily going to save much, if any, money.
- 20.12. Canal and Rivers Trust (CRT) noted that WRSE's draft regional plan considered the STT transfer proposal canal option to be too expensive compared to a pipeline, and requested further evidence for the best value metrics to ensure that the regional plan is driving the correct investment decisions. CLA supported the option even at high cost, with recreational and tourism benefits factored into the cost benefit analysis. CLA also noted that Wales must not be disadvantaged by exporting water to South East England.
- 20.13. Energy UK identified the need to assess potential impacts on the power sector of the STT transfer proposal, as well as the GUC transfer proposal, as both of these transfers would use the Minworth diversion as the source of raw water, diverting water from WRW to WRSE that would have otherwise been available in WRE. In both cases the Minworth effluent is diverted southwards instead of ending up in the River Trent, potentially affecting significant power sector abstractors from the River Trent.
- 20.14. WRW noted that WRSE companies were reporting a selection of the STT transfer proposal support options in their preferred plans different from the

regional reconciliation position, and asked WRSE and its member water companies to present a clear and consistent preferred plan selection of transfer schemes in the next iteration of the plans, aligned to the outcome of the third regional reconciliation process being undertaken. It noted that the availability of the STT transfer proposal support options was a flexibility of the STT transfer proposal system and noted the resilience benefit of this for the South East.

- 20.15. The Group Against Reservoir Development (GARD) supported the STT transfer proposal, but commented that the planned 500 MI/d aqueduct capacity seems unnecessarily large and a 300-400 MI/d capacity should be evaluated. This would allow the possibility of the Cotswold canal being reinstated and used as the aqueduct, bringing very substantial leisure benefits and attracting strong public support. It also considered that initially at least, the only source required to support the STT transfer proposal would be the Netheridge STW effluent diversion, and the first stage of the Minworth STW upgrade. It stated that the latter might not be necessary if the Cotswold canal was used as the aqueduct because no sweetening flow would be required.
- 20.16. Gloucestershire Wildlife Trust, however, opposed the principle of a large scale STT transfer proposal as a result of concerns about environmental impact, and the long term sustainability of the proposed transfer. Detailed comments against the proposal were provided by the Trust, including concerns that this would be hugely disruptive to the natural functioning of the Severn River system and undermine efforts to deliver nature's recovery and the Government's 25-Year Environment Plan. The Trust was concerned about adverse impacts on efforts to open up the catchment to migratory fish by removing and bypassing existing barriers, and the risk of invasive species being easily transferred between catchments, including threatening populations of native species at risk including white clawed crayfish. The Trust also questioned the long-term sustainability of such a scheme, both in terms of available water to transfer from the river, and the potential impacts of sea level rise making areas above Gloucester more tidal, and the suggested abstraction points unlikely to provide a long-term solution as they would not provide suitable access to freshwater.

- 20.17. In addition to the above, the Trust highlighted STT transfer proposal reports that noted a significant modelling exercise will be required to understand the impacts of all the new, or altered, abstractions on the River Severn both alone and in-combination. It noted that the Severn Regulation Releases and existing hands off flows would also need to be considered with engagement from the Environment Agency and Natural England. Consideration of the impacts of reduced freshwater on the Severn Estuary needs to be considered (the estuary being designated as an SAC, SPA and Ramsar site) and on land functionally linked to the estuary. It considered it highly likely that extensive mitigation would be required and any such costs should be factored into the delivery of the scheme.

Individual responses

- 20.18. Numerous responses were received giving strong support for the STT transfer proposal as an alternative to, or in advance of the construction of the SESRO Reservoir proposal. Many considered the import of water resources from outside of the region to bring additional resilience to the South East. The STT transfer proposal was also considered by respondents to be available sooner than the SESRO Reservoir proposal, and avoiding the reservoir's concentration of impacts on a local area.
- 20.19. There was also significant support for the STT transfer proposal canal option for the canal restoration, recreation and environmental benefits the proposal would bring. Many respondents considered that the benefits of the canal option had not been appropriately calculated or considered in WRSE's decision making. However, there was also opposition expressed to the canal option with concerns expressed about the environmental impact of such a proposal within the Chalford Valley.

WRSE's work since the draft regional plan was published

- 20.20. Since the publication of the draft regional plan, WRSE has continued to discuss the timing and details of the STT option with Water Resources West

(WRW) and the water companies, to ensure the consistency of the representation of the STT options in the regional plans and WRMPs. The updated STT scheme information submitted to RAPID as part of the Gate 2 submission in November 2022 has also been incorporated into the regional plan investment modelling.

WRSE's response to the issues raised

- 20.21. The Severn Thames Transfer (STT) proposal represents a strategic resource option that facilitates the transfer of water from the River Severn to the River Thames. This would be supported by several sources of water³ from United Utilities and Severn Trent.
- 20.22. During the development of the draft regional plans and WRMPs the STT transfer proposal was selected as part of the WRSE regional solution, in conjunction with other schemes, in 2050. This was also reflected in WRW's plans.
- 20.23. Whilst the STT transfer proposal featured in both regions' draft preferred plans, a series of sensitivity tests at the time showed that the STT transfer proposal could be selected as early as 2039, if the South East Strategic Reservoir Option (SESRO) proposal could not be developed, or not at all if government water efficiency policies resulted in a lower demand forecast due to increased water efficiency.
- 20.24. In March 2023 the regional reconciliation process began its third round. At this time none of the regions had finalised a preferred revised regional plan. Therefore, sensitivity runs were undertaken to explore what might happen under certain scenarios. This scenario modelling used the updated STT transfer proposal data, but some other information in the WRSE model was based on the draft plan.

- 20.25. The scenario testing approach confirmed that if the WRSE companies met the 110 l/h/d PCC target by 2050 then the STT transfer proposal was not selected in the reported pathway (preferred plan). Sensitivity tests also confirmed the need for the STT transfer proposal in scenarios without SESRO or with government water efficiency interventions not reducing demand to the levels anticipated. Therefore, the need for the STT transfer proposal inclusion in an adaptive plan was confirmed. Given that the revised draft plan was still under development for WRSE, but we knew that the revised regional plan would seek to achieve the 110 l/h/d PCC guidance target, the more likely scenario was that the STT transfer proposal would not be required in the preferred plan for WRSE or WRW. This was the agreed outcome of reconciliation for inclusion in the revised draft WRMPs, which includes adaptive pathways to deal with potential changes.
- 20.26. Although the water companies are working toward mitigating those risks through their plans, they are influenced by factors outside of the control of the companies and therefore it is reasonable to plan on basis there is a likelihood of occurring. The adaptive pathways recognise different potential outcomes. In either case, there is a need to progress development of the STT transfer proposal system⁴ in the next 5 years so it can be delivered by 2039 if required.
- 20.27. As the regional plans continue to be developed the risks associated with the promotion of certain schemes or delivering the water efficiency targets, set out in the Environment Improvement Plan, remain. Both regions have developed a series of adaptive regional plans to help offset some of this risk.
- 20.28. The adaptive regional plans consider three scenarios:
 - 1. benign scenario in which schemes and assumed savings from water demand reduction measures are delivered (this is aligned to the reported pathway/preferred plan)

³ The North West Transfer enabling use of Vyrnwy Reservoir, and recycling water from Minworth and Netheridge.

⁴ STT System includes the STT and the sources that feed water to the STT, namely Severn Trent Sources (Netheridge), Minworth and the North West Transfer. Changes to the flow regime in the Severn catchment due to releases, interactions with the

Severn Regulation Scheme, a bypass pipeline for the Afon Vyrnwy and system operation are within the scope of the STT project.

2. a short term adverse scenario in which preferred supply options aren't delivered and the STT transfer proposal is then required to be developed and operational by 2039/40; and
 3. a long term adverse scenario in which the projected demand management savings do not materialise and additional water from the STT transfer proposal is required by 2050.
- 20.29. Through this approach both regions monitor the delivery of the schemes and benefits of their plans to understand if their plans are still on track or whether they need to adapt to one of the scenarios above.
- 20.30. For the regional plans to remain flexible and adaptive it is critical that key schemes are progressed in a timely manner. In the case of the STT transfer proposal and the potential for it to play a part in the short term adverse scenario this would require development of the scheme to continue over the next AMP period (2025 to 2030) and through the next gates to provide confidence that the scheme could be utilised when required. Proposed milestones are under development and in discussion with RAPID to be reflected in future gate submissions.
- 20.31. Therefore both regions and relevant companies are promoting the continued development of the STT transfer proposal system in their WRMPs, Regional Plans and business plans to provide confidence to regulators and the Secretary of State that their plans are robust and can adapt to meet their statutory duties in the future. This demonstrates alignment of the companies and regions on this need to solve national water resources risks identified in the National Framework.
- 20.32. The very clear expression of support from respondents to the draft regional plan for the STT transfer proposal as a strategic option is acknowledged, both as a resource option in its own right, and as a preferred alternative to the promotion of the SESRO reservoir proposal. For the reasons expressed above, WRSE supports the continued promotion of the STT transfer proposal as a strategic option, notwithstanding that it is not currently selected as part of the regional plan investment modelling.
- 20.33. WRSE also acknowledges the strongly expressed support from respondents for canal-based transfers, and recognises the wider recreational, cultural and other benefits that transfers incorporating canal restoration proposals can deliver. However, the STT transfer proposal canal option was not selected by the investment model in the draft regional plan and sensitivity testing undertaken for the plan identified that if forced to select it, the canal reduced the overall deployable output benefit of the STT transfer proposal due to the constrained capacity of the canal option. It is noted that the Grand Union Canal (GUC) transfer option is assessed as having a maximum transfer capacity of 100MI/d, due to constraints within the canal network. If applied to the STT transfer proposal canal option, this represents a significant constraint over the potential volumes that could be transferred through a pipeline based solution. This in turn requires a greater number of other new resource options to be selected, increasing the financial cost and environmental impact of the plan as a whole.
- 20.34. Whilst there is significant support expressed in consultation responses for the STT transfer proposal, including expressed preferences for it instead of or ahead of the SESRO reservoir proposal, the SESRO reservoir proposal is consistently selected in investment model runs undertaken for the regional plan. In undertaking the modelling, all other alternative options were available for selection, including the STT transfer proposal, however they were not selected ahead of or instead of the SESRO reservoir proposal. WRSE's analysis indicates that this is because plans which exclude SESRO are more expensive, result in more carbon emissions, and do not deliver the same environmental or resilience benefits, particularly under severe future scenarios.
- 20.35. WRSE also welcomes the detailed comments submitted on the STT transfer proposal in the consultation responses, both for and against the option. This includes those expressing concerns about the potential environmental impacts of the option. WRSE acknowledges that there are potentially significant impacts associated with the construction and future operation of the proposal that will need to be fully assessed, mitigated and/or

compensated for in order to secure the necessary planning and other consents for its construction and operation. These include abstractions, discharges and planning consents etc. Through ongoing technical work on the proposal, the scheme promoters will need to ensure that the proposals that they design and assess robustly address and overcome the environmental constraints facing the scheme and deliver environmental and other benefits associated with the proposal. This is an essential part of future applications for consent, and failure to do so would risk those consents not being granted at that point in the future.

- 20.36. At this plan-making stage, a series of environmental assessments of the proposals in the draft regional plan were undertaken. These include assessments of the STT transfer proposals and the other options available for selection in the investment modelling undertaken for the regional plan, as well as assessments of the plan as a whole including in combination assessments of the options selected in the plan. These assessments have been partly undertaken by WRSE and partly by our member companies utilising existing available environmental and other information, including that gathered and assessed as part of WRMP preparation and the RAPID gated process.
- 20.37. The assessments for the regional plan identify the potential impacts associated with the STT transfer proposal, and WRSE's decision making on the proposals in the plan take these assessment outcomes into account in the best value decision making. The level of detail undertaken for these assessments is consistent with that expected for a plan such as the regional plan and individual WRMPs. Further and more detailed environmental and other assessments will be undertaken as part of subsequent applications for consent. This will include further consideration of the potential use of Minworth to supply the STT transfer proposal and the GUC transfer proposal, including the potential impacts on downstream flows and abstractors, through the regional reconciliation process.

How the revised draft regional plan has changed in response

- 20.38. WRSE's regional investment modelling for the revised draft regional plan no longer selects the STT transfer proposal within the preferred pathway in the regional plan.
- 20.39. However, for the reasons explained above, WRSE supports the continued promotion of the STT transfer proposal as a strategic option, notwithstanding that it is not currently selected as part of the regional plan investment modelling. The revised draft regional plan includes new text to explain this approach to provide confidence to regulators and the Secretary of State that the WRSE regional plan is robust, and that company WRMPs can adapt to meet their statutory duties in the future.

21. Other water transfer proposals

What did the draft Regional Plan propose

- 21.1. The draft regional plan explained the extensive work WRSE has carried out with the other regional groups to identify opportunities to share water between regions and provide a more joined up national solution to the country's future water needs. This includes the continuation of existing transfers, and opportunities for new ones. This work showed that there are two potentially viable transfers from the Water Resources West region into the South East using the existing river and canal network, the STT transfer proposal (as covered in Section 20 of this consultation Response document) and the Grand Union Canal (GUC) transfer proposal. The draft regional plan identified two phases of the GUC transfer proposal as part of the proposals, 50 MI/d in 2031 and a second phase of an additional 50 MI/d in 2040. Other regions have indicated through a regional reconciliation process that they are unlikely to be able to provide additional water, beyond what is required to meet their region's needs. These schemes have therefore been discounted at this stage.
- 21.2. The draft regional plan also explained that WRSEs six member companies already share some of the region's water supplies through pipelines that link their supply areas. Currently, up to 115 million litres of water per day can be moved between the six companies. There are also pipelines that link the companies' water resource zones (WRZs) which enable them to move water around their own supply areas, and imports into the region from companies outside of the WRSE area. The total volume of transfers in the region in 2026 at the start of the regional plan is 420MI/d. A large number of new transfer schemes were identified in the draft regional plan, including 3 strategic schemes and many smaller inter and intra company schemes. The 3 strategic transfer schemes were from Havant Thicket Reservoir to Southampton (as covered in Section 19 of this Consultation Response document as part of the Hampshire Water Transfer and Water Recycling Project), a transfer from

Thames to Affinity (of 100 MI/d by 2040 from the River Thames to Affinity Water's supply area), and Thames to Southern (up to 120 MI/d by 2040 from either or both of the SESRO Reservoir proposal and the STT transfer proposal). The draft regional plan identified that by 2075, an additional 970 million litres of water per day will be able to be moved through the enhanced regional water network compared to the start of the plan in 2026.

Summary of issues raised in responses

Regulatory and other Government responses

- 21.3. As identified in relation to the STT transfer proposal, the EA noted that Minworth recycling was selected in the preferred plan providing resource to the Grand Union Canal option from 2040, as well as the Severn Thames Transfer later in the planning period. As noted in the WRSE plan, it noted that there were still concerns regarding the environmental impacts of this option that would need to be resolved. The EA encouraged WRSE and the relevant companies to continue to engage with WRW to progress this scheme to confirm its viability.
- 21.4. Ofwat welcomed the consideration WRSE had given to inter-regional transfers and noted the significant investment in intra-regional transfers to improve resilience in the South East which suggested that WRSE was supporting collaboration across the companies operating in its region.
- 21.5. Natural England commented that collaboration between water companies across the South East and in other regions was very important, and where opportunities exist to share resources then it was sensible to explore these. It stated that such transfers would help to build nationwide resilience to climate change and the challenges associated with a growing population. However, Natural England stated that care must be taken not to build a reliance on resources that might be needed elsewhere. Where environmental harm is occurring, Natural England stated that water companies must ensure that unsustainable abstraction is removed and supported by alternative sources or demand management measures before exporting water to other companies or areas. In addition, when transferring water between any catchments, it stated that thorough investigation must

be undertaken into the risk of introducing non-native invasive species to new areas, and to differences in water chemistry and water quality that might alter the ecology of receiving waters.

- 21.6. Historic England noted that the Grand Union Canal is a heritage asset of national significance with significant number of designated and non-designated assets along its length, as well as passing through conservation areas and historic places.

Other organisational responses

- 21.7. Local authorities generally expressed support for planned water transfers, including the GUC transfer proposal, recognising the benefits of sharing resources between regions and companies, although some expressed concern about the energy and carbon impacts of long distance water transfers. Dacorum Borough Council was supportive of the GUC transfer and the Thames to Affinity Transfer, although it requested more information as these schemes progressed – particularly in relation to timescales and any appropriate mitigation measures that may be required, with concerns expressed about biodiversity, flood risk and invasive non-native species. CPRE also expressed support for the GUC transfer proposal.
- 21.8. Local authorities opposed to the SESRO Reservoir proposal, including Vale of White Horse District Council and Oxfordshire County Council indicated that they were concerned about the impact of the potential transfer pipeline proposed from Thames Water to Southern Water, and questioned the appropriateness of this given the potential for desalination or other local solutions in Hampshire instead. Concerns were also expressed about the potential impacts of the pipeline through an Area of Outstanding Natural Beauty.
- 21.9. Support was expressed for the evaluation of pipeline routes between Anglian Water and Affinity Water to enable a transfer of water into the South East by 2040.

- 21.10. The Group Against Reservoir Development (GARD) commented on a number of transfer schemes, supporting the delivery of both phases of the GUC transfer proposal and the earlier delivery of the Thames to Affinity transfer to allow all the planned upper Colne and Lea chalk stream reductions to be in place by the early 2030s. It suggested that the source of water for the Thames to Affinity transfer should be a direct connection to Thames Water's London supply system, via an existing reservoir, commenting that this meant that the Thames to Affinity transfer doesn't need to wait for either the SESRO Reservoir proposal or the STT transfer proposal. The Group Against Reservoir Development also stated that in its opinion, the Thames to Southern transfer will never be needed and it should be abandoned due its minimal benefit and disproportionately high cost.
- 21.11. WRW supported the inclusion of the GUC transfer proposal within WRSE's draft regional plan on a consistent basis with WRW's plan. WRE supported the inclusion of the continuation of Grafham transfer to Affinity Water in the draft regional plan.
- 21.12. Herts and Middlesex Wildlife Trust urged WRSE to bring forward the Thames Water-to-Affinity Water Transfer Scheme (east) – currently pencilled for beyond 2040, as it stated that the chalk headwaters of the Lee and Stort Catchment's could not wait another 15+ years for their flows to recover.
- 21.13. Canal and Rivers Trust (CRT) welcomed the promotion of the GUC transfer proposal within the draft regional plan, commenting that predicted utilisation may mean there is more water available for the WRSE Region when Affinity Water don't need it, and recommending WRSE consider this further. CRT expressed disappointment that the Oxford Canal and Brent reservoir options were only selected in the higher adaptive plan pathways and sought further discussion with WRSE on the best value metrics for these options. Similarly, CRT was surprised not to see reference to the Mendips Quarry potential option within the draft regional plan.
- 21.14. The inland Waterways Association supported water transfers utilising the canal network, but also commented in detail on a number of issues which

needed to be considered when combining water transfer with navigation, including flow rates, air-draft / level changes, whether priority during times of high demand would be for water transfer or navigation, responsibilities for operation and maintenance of both new and existing structures, the need for by-washes around locks and the risk of pump failure.

- 21.15. The South East Rivers Trust was encouraged to see schemes such as the GUC transfer proposal Phase 1 being brought in quickly, largely using existing infrastructure to bring an extra 50 Ml/d from the Midlands by the early 2030s, taking pressure off abstraction from chalk streams in the Chilterns. It wanted to see this approved, and Phase 2 of this scheme brought forward as quickly as reasonably possible.

Individual responses

- 21.16. There was strong support from respondents for the principle of water transfers both into and within the region as a key part of the draft regional plan. Sharing water was seen as a sensible and appropriate solution, and many respondents questioned why transfers weren't already used more heavily. A large proportion of those expressing support for water transfers, expressed their opposition to the need for, and selection of, the SESRO Reservoir proposal in the draft regional plan, and their preference for the STT transfer proposal and the GUC transfer proposal Phase 2 instead. Many followed suggestions provided by the Group Against Reservoir Development, including comments that the need for transfers had been known for years and WRSE and the companies should just get on with it.
- 21.17. Other respondents also strongly supported water transfers into and within the region including the GUC transfer proposal, whilst also questioning why options such as GUC Phase 2 and Thames to Affinity Transfer were not priorities earlier in the plan period.
- 21.18. A number of the respondents were supportive of the principle of transferring water either between regions or within the region, but provided comments to caveat their support. Support was expressed for canal based transfers as an alternative to other less socially and environmentally beneficial options.

Other respondents however, were concerned about the financial and environmental costs of long distance transfers and felt that solutions should be identified and developed local to the need. It was suggested that decisions needed to be taken on the least overall environmental impact, and not on cost. Support was also expressed for water transfers to be used to transfer water from new reservoirs located outside of the South East.

- 21.19. Some respondents were concerned that a number of the options selected – including transfer options – required 'sweetening flows' that meant water had to be produced and pumped even when not needed. Some concerns were also expressed about the financial and carbon costs of water transfers, and the potential environmental impacts of moving water between catchments.
- 21.20. Respondents caveating their support identified that whilst supporting transfers, they also wanted to see the development of sufficient new resource options within the region as well, so as not to be too dependent on other regions or companies. Some respondents questioned whether it was customers of the water companies and shareholders who would benefit the most. Other respondents were concerned that water sharing and collaboration between companies may not promote competition, and that customers would not benefit but water company shareholders would.
- 21.21. Other respondents wanted re-assuring that transfers to another region would not leave the transferring region or area at a disadvantage or make it less resilient, and to make sure that water being transferred was sustainable and not reliant on a large new reservoir.
- 21.22. Some respondents were opposed to the Thames to Southern Transfer proposal, as it was reliant on the SESRO Reservoir proposal and did not generate new water, simply moving it around the region. There was a suggestion from some respondents that a desalination plant in Hampshire would be more beneficial to the region as a whole, rather than relying on transferring water from the SESRO Reservoir proposal to Hampshire.

WRSE's work since the draft regional plan was published

- 21.23. Updated scheme information from the ongoing technical work being undertaken by the six water companies in the South East, and companies in other regions have led to updated scheme information being submitted to WRSE. It has incorporated this updated information into the investment modelling for the regional plan, and any new or updated environmental information has been fed into the regional plan and WRMP environmental assessments. WRSE's updated modelling for the revised draft regional plan has taken account of this updated information.

WRSE's response to the issues raised

- 21.24. Improved transfers of water between areas forms a key part of the strategy in the draft regional plan. WRSE considers that transfers between regions, between companies, and within companies are an essential part of developing an integrated and resilient water supply system for the South East region as a whole. Greater connectivity within the region is essential part of resilience, and utilising resilient transfers into the region is a key part of overall WRSE strategy.
- 21.25. WRSE has undertaken rounds of regional reconciliation with the other regional groups as part of preparing the regional plan. It notes the lack of potential imports to the South East region was highlighted as a concern in a number of responses, however other regions' resources are also facing significant challenges under future abstraction reduction, growth and climate change forecasts. Whereas prior to work commencing on the regional plan it was anticipated that a significant volume of inter-regional transfers could be available into the South East, as all of the regions have progressed their plans in detail, the number and volume of these transfers has significantly reduced.
- 21.26. The strong support from respondents to the draft regional plan consultation for the principle of water transfers, both into and within the region, is

welcomed by WRSE. As noted above, sharing water was seen as a sensible and appropriate solution, and many respondents questioned why transfers weren't already used more heavily. Support for canal transfers was also strongly expressed, particularly for wider recreational and environmental benefits that can arise from canal restoration schemes associated with proposed water transfers. Support was expressed both in general terms, and also for specific individual options, both the continuation of existing transfers such as Grafham, and for new options including the GUC transfer proposal, STT transfer proposal and other schemes. WRSE's response on individual schemes is provided in paragraphs 21.30-21.33 below.

- 21.27. Some respondents raised concerns on the principle of transfers, and on the potential environmental impacts of their construction and operation. On the principle of transfers, there were concerns expressed that areas should not transfer water if this resulted in a deficit or environmental impact in that 'source' area. Concerns were also expressed include the potential for Invasive Non Native Species (INNS) transfer through new pipeline or canal transfer schemes, and the potential for transferred water to result in water quality or water chemistry impacts. The energy and carbon costs associated with the construction and operation of long distance transfers was also highlighted as a concern, as was the need for a low level continuous 'sweetening flow' to be pumped through pipelines on an ongoing basis, despite there being no water resources need for any transfers at times of the year. In relation to canal transfers, some respondents identified the importance of ensuring that navigational impacts or changes to the canal's operations should not be adversely affected.
- 21.28. WRSE and our member companies, working with other regions and water companies outside of the South East have robustly considered the availability of water to transfer between regions and sub-regions. All of the transfer options available for selection in the regional plan investment modelling have also had environmental assessments completed by WRSE and our member companies. The results of these assessment have fed into the best value decision making processes, including in relation to carbon and energy use. In addition, depending on the timescales for the delivery of

individual options, a number of the options are already the subject of detailed water quality and other investigations, including through the RAPID gated process, with results of these assessments shared and discussed with the Environment Agency and Natural England.

- 21.29. WRSE acknowledges that there are potentially significant impacts associated with the construction and future operation of transfer proposals that will need to be fully assessed, mitigated and/or compensated for in order to secure the necessary planning and other consents for their construction and operation. These include abstractions, discharges and planning consents etc. Through ongoing technical work on individual proposals, the scheme promoters will need to ensure that the proposals that they design and assess robustly address and overcome the environmental constraints facing individual schemes and deliver environmental and other benefits associated with their proposals. This is an essential part of future applications for consent, and failure to do so would risk those consents not being granted at that point in the future.
- 21.30. Turning to specific proposals on which comments were submitted, the GUC transfer proposal attracted strong support in consultation responses. It is a key part of the regional solution, enabling Affinity Water to meet abstraction reduction commitments in the 2025-2035 period, allowing for earlier delivery of further environmental ambition in its supply area compared to a plan without the GUC transfer proposal. The GUC transfer proposal also enables Affinity Water to reduce the import from Grafham, benefiting the WRE region. The draft regional plan identified two phases of the scheme, 50MI/d each, and consultation responses supported bringing forward the second phase and developing the full scheme earlier in the plan period. The revised draft plan modelling showed that if Affinity Water developed the GUC transfer proposal at 100MI/d rather than 50 MI/d, it helps provide additional resilience in order to meet existing WINEP commitments, and also to enable a new reverse transfer between Affinity Water and Anglian Water, which will ultimately help to support Cambridge Water (see para 21.36 below). Whilst selecting GUC at 100 MI/d increases the costs of the plan, it is an important step in the development of a robust and resilient regional plan.

Bringing forward a 100MI/d transfer earlier in the planning period also accords with the consultation responses.

- 21.31. Concerns expressed about the GUC transfer proposal in consultation responses included comments noting that both the GUC transfer proposal and the STT transfer proposal are reliant on treated wastewater flows from Minworth sewage treatment works. The potential for impacts were identified arising from reduced water flows downstream of Minworth, both in terms of environmental impacts, impacts on hands off flows and licence conditions, and potentially on downstream abstractors in the power sector. Other comments identified the heritage significance of the GUC itself, and the sensitivity of specific historic features along the route of the scheme, and a number of conservation areas through which it passes. These issues are continuing to be assessed and evaluated by the scheme promoters as part of their ongoing technical work on the GUC transfer proposal ahead of applications for planning and other consents. This will include further consideration of the potential use of Minworth to supply the STT transfer proposal and the GUC transfer proposal, including the potential impacts on downstream flows and abstractors, through the regional reconciliation process.
- 21.32. The Thames to Southern Transfer (T2ST) proposal was selected in the draft regional plan as a key option necessary to meet the needs of central and south Hampshire, as well as providing local supplies to parts of Berkshire and north Hampshire. Comments and concerns expressed in relation to this option were made in relation to the principle of the scheme itself and also to the source of water – identified in the draft regional plan as the SESRO reservoir proposal, and/or STT transfer proposal in the longer term. Some respondents considered that Southern Water should develop local solutions in its own area, rather than relying on imports from Thames Water, and options including desalination were suggested as alternatives. WRSE's investment modelling for the draft regional plan identified the need for T2ST to transfer water to Southern Water, and that without the transfer Southern Water was unable to meet its customer needs due to a lack of other local options. Options including desalination had previously been explored in detail by Southern Water but rejected as viable and deliverable alternatives

through the RAPID gated process. As part of the overall regional solution, transfers between companies such as the T2ST proposal are an essential part of the overall regional solution. The detailed proposals for the scheme, including more detailed technical and environmental studies are being undertaken by the scheme promoters ahead of applications for planning and other consents.

- 21.33. For the schemes selected in the regional plan, the scheme promoters will continue to progress the detailed technical work on the proposal, both through the RAPID gated process, and for the necessary applications for planning and other consents. There will be additional stages of consultation and engagement on the proposals as part of this process. It is important to note that identification of proposals in a final WRMP establishes the “need” for the proposal. The National Policy Statement for Water Resources Infrastructure (NPSWRI) makes clear that when an application for Development Consent is submitted, the ‘need’ would not be expected to be revisited as part of the application for development consent (see paragraph 1.4.5 of NPSWRI). The application and the examination would focus on the detail of the proposals, considering accordance with the NPSWRI, Planning Act 2008, and other relevant legislation. Whilst this wording applies only to nationally significant infrastructure proposals, applications for planning permission would also be likely to be advanced on the basis of the WRMP establishing the need for individual schemes.

How the revised draft regional plan has changed in response

- 21.34. The regional investment modelling for the revised draft regional plan has changed the transfer options selected in a number of respects, including re-phasing some of the transfers from the draft regional plan. All of the changes are set out in the revised draft regional plan, published alongside this Consultation Response document, the most significant of which are summarised below.

- 21.35. As noted in Section 20 above, WRSE supports the continued promotion of the STT transfer proposal as a strategic option, notwithstanding that it is not currently selected as part of the regional plan investment modelling. It is identified in the revised draft regional plan on this basis i.e. as part of the adaptive plan should alternative strategic resources be required during the plan period (as described in Section 20 above).
- 21.36. The GUC transfer proposal was selected in two 50 MI/d phases in the draft regional plan. The revised draft regional plan has selected a single 100MI/d development of the GUC transfer proposal, bringing the full benefit of the scheme earlier in the plan period, in line with requests in consultation responses. Selecting the GUC transfer proposal at 100MI/d also enables a new transfer out of the region to be included within the revised draft regional plan. This follows a request from Water Resources East through the regional reconciliation process. The new transfer of 27MI/d is between Affinity Water and Anglian Water, which will ultimately help to support water supply to customers of Cambridge Water.
- 21.37. The Thames to Southern Transfer proposal remains as a significant transfer option in the revised draft regional plan, selected to transfer water from the SESRO reservoir proposal to Southern Water and Thames Water WRZs as soon as the reservoir development is commissioned and operational. It also provides a supply to South East Water later in the planning period.
- 21.38. The Thames to Affinity Transfer proposal also remains selected as a significant transfer proposal in the revised draft regional plan.

22. Other water supply proposals

What did the draft Regional Plan propose

- 22.1. The draft regional plan identified that whilst demand management measures will contribute a significant proportion of our future water resources needs, we also need to plan for and deliver a significant scale and capacity of new resource developments to meet the future challenges we face. The plan included a number of schemes that are required, and which are of least regret, and a number of other potential schemes that could provide new water supplies for the future. This was based on WRSE's assessment of the feasible options which have been included in our regional investment modelling to identify the best value solution. The options included:
- Reservoirs
 - Water recycling
 - Enhancing groundwater and aquifer use
 - Desalination
 - Multi-sector options
- 22.2. For the period 2025 to 2035 in the reported pathway (pathway 4) WRSE identified that new supplies would need to include a new reservoir (Havant Thicket Reservoir), 6 water recycling schemes (in Hampshire, West Sussex, Kent, London and the Isle of Wight), 6 groundwater schemes across the region, and a desalination plant in West Sussex.
- 22.3. Between 2035 and 2075 the draft regional plan identified that new supplies would need to include 6 reservoir schemes (including Broad Oak Reservoir, the SESRO Reservoir proposal, Brent Blackstone, Broyle Place and increased capacity at Bough Beech), 6 additional water recycling schemes (in London, East Sussex and Kent, 5 desalination plants (in Kent and Sussex) with additional phases at another plant, and 14 groundwater schemes.

Summary of issues raised in responses

Regulatory and other Government responses

- 22.4. The EA noted that Teddington DRA was selected in the preferred plan at 2031 to provide an improved level of resilience to Thames Water's London supply zone, however it had concerns regarding the feasibility of the scheme due to its environmental impacts. The EA understood that further work on mitigation was ongoing by Thames Water but would not be available until completion of Gate 3 of RAPID's SRO programme in late 2023. It welcomed WRSE carrying out a sensitivity test to show which options are selected as alternatives if Teddington DRA was not feasible, and that this was considered as part of the adaptive plan monitoring. It encouraged WRSE to continue working with Thames Water to ensure the inclusion of this scheme is valid, as well as to progress alternative solutions so that the region and Thames Water could adapt appropriately. It stated that the feasibility studies for Teddington DRA and its alternative solutions should continue to be progressed to ensure options are available should Teddington DRA be deemed infeasible.
- 22.5. The EA identified that the preferred plan had identified multiple desalination options on the Kent coast for Affinity Water, South East Water and Southern Water. It stated that it had previously raised concerns regarding the combined environmental impact that these schemes could have on the local environment. The EA supported the commitment from companies to investigate whether a more strategic solution that can be shared is available, and recommended that a plan to address this is set out in the regional plan and respective revised WRMP24s.
- 22.6. The EA understood from discussions with Southern Water that the Sussex Coast desalination option (10 Ml/d by 2028) was no longer a feasible option, and that the revised regional plan would need to be updated as the option was currently selected in all pathways of the adaptive plan. The EA also noted that a supply previously identified from Portsmouth Water may also not now be achievable and considered it unclear what the alternative would be.

- 22.7. Natural England stated that the potential impacts of desalination options on protected sites do not appear to have been explored fully in the HRA or SEA of the draft Regional Plan, or in relevant water companies' WRMPs. The options were considered to pose a very real threat to marine and coastal habitats and species. It commented that these options were essentially being selected to resolve demand-supply imbalances due to abstraction reductions, which are in place to protect freshwater habitats (in particular, chalk rivers and streams). Natural England was concerned that impacts were being transferred from one valuable and vulnerable habitat to another. It stated that water recycling plants also discharge saline waste from the reverse osmosis process, often to the coastal environment, and this could have similar (albeit often lesser) impact on coastal processes and water chemistry. It also commented that reductions in freshwater flows to rivers and estuaries could also have an impact on ecology.
- 22.8. Natural England stated that the HRA must demonstrate that Marine Protected Areas have been screened correctly for likely significant effects from supply options such as the desalination and water recycling schemes. The need for Marine SPAs, SACs and Ramsar sites to be included in the HRA was also highlighted, as sites appeared to have been omitted or screened out. Natural England considered that a number should have been included in the in-combination assessment, and provided detailed comments on the in combination assessments for different options.
- 22.9. Historic England emphasised the importance of including impacts on the historic environment within assessments of options, highlighting that the Broad Oak Reservoir proposal involved the demolition of a Grade II listed building, and the need for historic impact assessments to inform site selection and detailed proposals for desalination and water recycling options.

Other organisational responses

- 22.10. There was support for water recycling and desalination proposals from local authority respondents, recognising the scale of challenges that the region

faces and the role that these option types could play in the South East. Of the options there was a preference expressed for water recycling over desalination, however there were also significant concerns expressed at the potential environmental impacts of both option types. The need for a focus on innovation and new technologies, as well as careful site selection and development design, to avoid and minimise potential environmental impacts to an acceptable level was highlighted.

- 22.11. Many other organisational responses also commented on water recycling and desalination, including the RSPB and CLA which urged that desalination was only considered as an absolute last resort given the energy requirements and potential impacts on the marine environment. Concerns were expressed about proposals in Kent in proximity to designated sites. Energy UK recognised the potential synergies between desalination and hydrogen production at the coast, where it is possible that future green hydrogen plant may use high quality desalinated water as the raw water input to an electrolyser. This could either be a water company supplying water to an electrolyser or a power company having the flexibility to divert water from the hydrogen plant's desalination plant into public water supply.
- 22.12. Kent County Council welcomed proposals in the draft plan to develop six water recycling schemes across the region between 2025 and 2035 to increase supply. It believed that water recycling provides a range of economic, social, and environmental benefits and it supported and encouraged WRSE's plans to increase the proportion of the region's water supply derived through this practice. However, it was surprised with the draft plan's long-term balance between the use of water recycling and desalination given the former's multiple benefits and supply potential for the region, and the latter's financial and environmental (carbon in particular) costs.
- 22.13. The Faversham Society similarly supported an increase in water recycling which would require close collaboration between South East Water and Southern Water in this area of north Kent. Increased water recycling would reduce dependence on water abstraction from the nearby chalk aquifer, which affects the flow of chalk streams flowing from the aquifer, and

contribute to improved water quality in Faversham Creek and the Swale as the result of reduced discharges of partially treated wastewater. The Society stated that water recycled from wastewater treatment works could either be fed immediately back into the local supply or else used to recharge the chalk aquifer.

- 22.14. Arun District Council was supportive of the use of water recycling schemes, although it stated that early engagement with all stakeholders, including landowners and developers whose land would be affected by associated pipework was especially important as one of the strategic sites contained in the adopted Arun Local Plan 2018 was sited to the south of the recycling proposal in Sussex. It stated that a desalination plant on the Sussex coast would unlikely be feasible or acceptable for a combination of reasons, including existing built up development and communities along the coast (e.g. at Littlehampton and Bognor Regis) and having sensitive nature sites of national and international importance (e.g. Pagham SPA and Climping SSSI), and the landfall siting of the potential Rampion 2 pipework.
- 22.15. Some respondents urged WRSE not to ignore the potential for smaller scale infrastructure solutions as a key part of meeting future resources needs, with some concerned at WRSE's seeming focus on a smaller number of very large regional solutions. Comments from some respondents, including Waverley Borough Council, highlighted concerns that there were no proposals in the regional plan within their local areas despite concerns about water supply issues.
- 22.16. CPRE supported the various water recycling schemes which it considered to be scalable, adaptable and have low environmental impacts. It stated that the Teddington DRA (supported by Mogden recycling) should be implemented as soon as possible, and understood that it could be easily expanded in the future from the current plans for 67 MI/d to 100 MI/d, and even further if the water temperature issues could be resolved. The Group Against Reservoir Development (GARD) similarly commented that the 67 MI/d Teddington DRA scheme could potentially be much larger and stated that it did not need to be constrained by water temperature concerns. It

considered that if more water was genuinely needed, it believed that a much larger version of the scheme should be reconsidered, making more use of the approximately 400 MI/d output of Mogden STW.

- 22.17. The Port of London Authority (PLA) asked to be involved in the planning process for the Thames Estuary desalination proposals to ensure they aligned with the goals of Thames Vision 2050 and Thames Master Planning.
- 22.18. CPRE considered that desalination plants along the south coast should not be completely rejected, but be restricted to brownfield sites and subject to a rigorous environmental assessment. It stated that new technologies and the decarbonisation of the electricity grid may make these more cost-effective options in the future. CPRE highlighted the previously proposed Fawley desalination plant, stating that the Fawley oil refinery was very likely to become redundant as the UK decarbonises (with for example, the vast majority of cars being electric by the 2030s). CPRE commented that there seemed to be a considerable opportunity to repurpose part of the site (clearly focusing on the brownfield area).
- 22.19. Swale Borough Council stated that there was no mention of the Sittingbourne recycling plant in the draft regional plan, although it was part of Southern Water's draft WRMP, and requested that the discrepancy be explained.
- 22.20. The South East Rivers Trust was supportive of South East Water's plans to bring forward the Broad Oak Reservoir in Kent. At the same time, it questioned why some seemingly "no regrets" supply schemes, such as the Horton Kirby aquifer recharge scheme in the Darent, and the Thames to Affinity transfer, were being pushed back by decades. The Trust stated that the forecast impacts of climate change, chalk streams and other priority habitats could not wait that long and it would like to see increased ambition and a shorter timeframe of action to secure their future.
- 22.21. Ringmer Parish Council considered that the Peacehaven water recycling scheme could be prioritised, and noted with some concern that the planned

new Arlington 2 reservoir, for which it considered to have substantial local support, appeared to have been replaced, without any local consultation, by a new 'Broyle Place' reservoir described as 'near Lewes', but actually largely in Ringmer. The Council raised a number of concerns about the deliverability and potential impacts of the proposal.

- 22.22. Waterlevel stated its belief that sea-tankering may have a role in Water Resources Management Plans, particularly when companies are proposing expensive options such as desalination and effluent re-use, or to make good the output of desalination plants that are not operating at their designed deployable output. It looked forward to continuing to work with WRSE and its member water companies on its proposal.

Individual responses

- 22.23. Support was generally expressed by respondents for more reservoirs and storage solutions, and the efficient capture and use of water available within the environment, especially in light of climate change and wetter winter rainfall. Respondents requested that WRSE and the water companies ensured they had fully explored above and below ground storage solutions.
- 22.24. The potential for greater water recycling opportunities and sharing resources between water companies in Kent was highlighted in some responses, as was the potential for desalination. However, concerns were also expressed by other respondents about the potential environmental impacts associated with desalination and water recycling proposals, with WRSE requested to seek to identify more sustainable alternative sources of water, utilising water recycling and desalination as 'last resorts', and even then investing heavily in new technologies to minimise their environmental impacts. Other respondents considered that the South East was not a severely drought-stricken region where these might be the only solution, and that with climate change wetter winters provided the opportunity to collect and store more water across the region instead.
- 22.25. Some respondents were concerned that a number of the options selected – including water recycling and desalination options - required 'sweetening

flows' that meant water had to be produced and pumped even when not needed. Other comments from respondents included that more environmentally friendly smaller schemes that would be cheaper could produce the water needed in the next 25 year plan period and provide more resilience to climate change, as they would be spread across the area and if one failed to come forward development of other options would already be underway.

WRSE's work since the draft regional plan was published

- 22.26. Updated scheme information from the ongoing technical work being undertaken by the six water companies in the South East, and companies in other regions have led to updated scheme information being submitted to WRSE. It has incorporated this updated information into the investment modelling for the regional plan, and any new or updated environmental information has been fed into the regional plan and WRMP environmental assessments. WRSE's updated modelling for the revised draft regional plan has taken account of this updated information.

WRSE's response to the issues raised

- 22.27. As noted above, whilst demand management measures will contribute a significant proportion of our future water resources needs, the draft regional plan identified the need to also plan for and deliver a significant scale and capacity of new resource developments to meet the future challenges we face. The support expressed for a wide range of new resource options in consultation responses, both in general terms and for specific options is welcomed.
- 22.28. Some significant concerns were expressed about the construction and operational impacts of certain options types, particularly desalination and water recycling options, including in relation to costs and carbon, reliance on new technologies, and the potential water quality and other impacts associated with the use of chemicals and the disposal of waste products from treatment processes.

22.29. WRSE acknowledges that there are potentially significant impacts associated with the construction and future operation of individual proposals selected in the regional plan that will need to be fully assessed, mitigated and/or compensated for in order to secure the necessary planning and other consents for its construction and operation. These include abstractions, discharges and planning consents etc. Through ongoing technical work on schemes, the scheme promoters will need to ensure that the proposals that they design and assess robustly address and overcome the environmental constraints facing the scheme and deliver environmental and other benefits associated with the proposals. This is an essential part of future applications for consent, and failure to do so would risk those consents not being granted at that point in the future.

22.30. At this plan-making stage, a series of environmental assessments of the proposals in the draft regional plan were undertaken. These include assessments of the water resources options available for selection in the investment modelling undertaken for the regional plan, as well as assessments of the plan as a whole including in combination assessments of the options selected in the plan. These assessments have been partly undertaken by WRSE and partly by our member companies utilising existing available environmental and other information, including that gathered and assessed as part of WRMP preparation and the RAPID gated process. The assessments for the regional plan identify the potential impacts associated with individual proposals, and WRSE's decision making on the proposals in the plan take these assessment outcomes into account in the best value decision making. The level of detail undertaken for these assessments is consistent with that expected for a plan such as the regional plan and individual WRMPs. Updated environmental assessment reports are published alongside the revised draft regional plan, and the comments from our environmental regulators and other respondents on the draft regional plan environmental assessments have been taken into account in updating those assessments. Further and more detailed environmental and other assessments will be undertaken as part of subsequent applications for consent.

22.31. Although WRSE explored 1,400 options for the regional plan, there is a relative lack of available water resource options for WRSE to consider for inclusion in the plan. A number of the individual catchments in the South East region are over abstracted already, and have few if any options available within them for the provision of new water. At the same time, some options that would have been considered in the past have themselves now been ruled out due to risks relating to the sustainability of their abstraction over the longer term. This has led to a focus more on options for storage (reservoirs or below ground), transfers between areas, and more technical options involving water recycling and desalination which are resilient to risks of abstraction reductions affecting their future operability. Over the medium to longer term in particular, the regional plan becomes more reliant on water recycling and desalination options to meet the scale of future challenges being faced. In some areas, these types of options are required in the shorter term as other options are not available, as explained below.

22.32. With Southern Water's removal of the Sussex Coast Desalination proposal from the draft regional plan, there are now no desalination options selected for delivery in the first 10 years of the plan, however there are a number of desalination options selected in the 2035-2050 period, and beyond 2050, especially in Kent. The options selected in the regional plan rely on the successful completion of technical and environmental investigations, and the consenting of options, resolving outstanding environmental impact concerns, technology and energy issues over the first ten years of the plan, so that they can be constructed and operational thereafter. As part of the preparation of the next cycle of regional plans and WRMPs, WRSE will work with our member companies to reconsider desalination options and generate and assess potential alternatives to them, including sub-regional solutions for areas such as Kent, where multiple individual solutions are currently selected in the regional plan. The Kent area needs a regional solution which incorporates additional storage, supported by water recycling and desalination options, notwithstanding that environmental regulators have expressed concerns about potential environmental impacts from some individual options.

- 22.33. WRSE's regional investment modelling is generally selecting water recycling options ahead of desalination options, as in general terms water recycling options perform better against the best value metrics than desalination options. A number of critical schemes in the first 10 years of the plan as part of the overall regional solution. This includes a number of water recycling schemes for Southern Water (including Hampshire Water Transfer and Water Recycling Project in Section 19 of this document), Teddington Direct River Abstraction proposal for Thames Water, and the GUC Transfer proposal which relies on water recycling at Minworth for Affinity Water. These schemes all need to be the subject of continued technical and environmental investigations, and the consenting of options, so that they can be constructed and becoming operational in that period. Multiple additional water recycling schemes are selected in the revised draft regional plan beyond 2035, there is time to investigate and assess these longer term options, including learning from schemes being progressed during the early part of the plan period.
- 22.34. In response to Swale Borough Council's comments on the draft regional plan, WRSE can confirm that the 'Sittingbourne' water recycling scheme was identified in both the WRSE draft regional plan and Southern Water's draft WRMP. The scheme name was different however in the two plans, and WRSE apologises for any confusion this may have caused. The water recycling scheme continues to be selected in the revised draft regional plan in 2031.
- 22.35. In response to the comments from Ringmer Parish Council, the updated investment modelling for the revised draft regional plan has changed the options selected compared to the draft regional plan. The Broyle Place reservoir proposal is no longer selected in the regional plan, nor is the Peacehaven water recycling proposal. The new reservoir proposal at Arlington is however now selected in the plan in 2057.
- 22.36. In addition to the need for the SESRO reservoir proposal (in Section 18 of this document), new or enlarged reservoirs, and proposals to enhance their

output through water recycling, form a core part of the overall WRSE regional strategy. It is essential to provide additional storage capacity within the South East region, supplementing the existing storage that has been developed over many decades. Portsmouth Water and Southern Water announced in July 2023 that the delivery timescale for the Havant Thicket Reservoir was being reviewed and that delivery by 2031/2 would be later than set out in the draft regional plan. There was significant support expressed for the Havant Thicket Reservoir, and for the Broad Oak reservoir proposal in Kent, which has been brought forward for delivery earlier in the plan period in the revised draft regional plan. Other reservoir proposals will continue to be explored as part of the preparation of the next cycle of regional plans and WRMPs.

- 22.37. The regional plan sets out a significant scale of new resource development, alongside significant demand management measures. Pending the completion of necessary technical and environmental investigations and the consenting of options, and the implementation of both new resource developments and demand management measures, there are delivery risks associated with such an ambitious and extensive programme. These risks will need to be closely monitored and managed by WRSE and our member companies, working closely with environmental and economic regulators, and with regular progress reporting to customers and stakeholders.
- 22.38. For the schemes selected in the regional plan, the scheme promoters will continue to progress the detailed technical work on the proposal, both through the RAPID gated process, and for the necessary applications for planning and other consents. There will be additional stages of consultation and engagement on the proposals as part of this process. It is important to note that identification of proposals in a final WRMP establishes the 'need' for the proposal. The National Policy Statement for Water Resources Infrastructure (NPSWRI) makes clear that when an application for Development Consent is submitted, the 'need' would not be expected to be revisited as part of the application for development consent (see paragraph 1.4.5 of NPSWRI). The application and the examination would focus on the detail of the proposals, considering accordance with the NPSWRI, Planning

Act 2008, and other relevant legislation. Whilst this wording applies only to nationally significant infrastructure proposals, applications for planning permission would also be likely to be advanced on the basis of the WRMP establishing the need for individual schemes.

How the revised draft regional plan has changed in response

- 22.39. The regional investment modelling for the revised draft regional plan has changed the water resources options selected in a number of respects, including re-phasing or removing some of the options selected in the draft regional plan, including in some cases where our member companies have provided updates on their delivery.
- 22.40. All of the changes are set out in the revised draft regional plan, published alongside this Consultation Response document.
- 22.41. Updated environmental assessment reports are published alongside the revised draft regional plan.

23. Catchment management and nature based solution proposals

What did the draft Regional Plan propose

- 23.1. The draft regional plan explained that WRSE, working with stakeholders, had identified more than 200 potential catchment and nature-based schemes across 20 catchments in South East England, which were included in our emerging regional plan (January 2022). However, for the draft regional plan WRSE applied the regulatory guidance and only included schemes that result in a direct increase in our region's supplies. This resulted in one scheme being included in the draft regional plan - integrated catchment activity on the River Itchen and River Test in Hampshire in the first five years of the plan, as part of the programme of work to deliver long-term improvements to these rivers through sustainable abstraction. Other catchment schemes were, in accordance with guidance, not included within the draft regional plan as at that time a specific deployable output benefit cannot be assigned to them.
- 23.2. Whilst options were not able to be included in the draft regional plan, and would need to be funded through water company business plans and other mechanisms instead, WRSE recognises and values catchment management and nature based solutions. These options help catchments to function more naturally, and allow groundwater catchments to function so that rainwater stays on the land longer and replenishes groundwater stocks (which in turn support the flows in rivers). Potential options include:
- River restoration
 - Nutrient and sediment reduction
 - Integrated catchment management
 - Working with farmers to improve land management practices

- Water retention measures such as natural flood management and wetland creation
- The creation and management of terrestrial habitats
- Sustainable Drainage Systems (SuDS) schemes.

- 23.3. The draft regional plan also identified that WRSE wanted to work with other land and water users to reduce their water demand and reduce the impact of their own activities on raw water quality (which will mean that water is easier to treat, using less chemicals, carbon, waste) and provide a long-term biodiversity benefit.

Summary of issues raised in responses

Regulatory and other Government responses

- 23.4. The EA stated that catchment and nature-based solutions were recognised as having the potential to deliver multiple benefits, however since the emerging plan, catchment schemes had not been included in WRSE's best value plan following regulatory feedback. The EA stated that WRSE should consider, in line with updated WRP, whether catchment schemes can help in delivering environmental destination or mitigate the risk of deterioration. The EA saw such schemes as a vital part of the environmental destination that were able to deliver benefit in multiple ways, including making the environment more resilient to low flows and to help reduce and mitigate the risk of environmental deterioration; to benefit supply (for example through improved aquifer recharge); and to mitigate the impact of the abstraction on the environment whilst long-term solutions are being developed.
- 23.5. Natural England considered that the value of catchment schemes in improving the quality and reliability of existing water resources, and the environmental and societal benefits they can provide, was well-described in the draft regional plan. It noted that more than 200 potential catchment and nature-based schemes were identified in the Emerging Regional Plan (January 2022), and a wide range of types of nature-based activities were considered as potential options. However, it noted that the draft regional plan only included one catchment scheme, namely a project in the Test and Itchen catchment, because WRSE was unable to assign a specific deployable

output benefit to the other schemes, so these were removed from the draft regional plan in line with guidance. Natural England was disappointed that only one catchment scheme had been selected in the Plan, although it understood the reason for that. It strongly encouraged water companies and WRSE to continue to explore opportunities for catchment schemes and to deliver these wherever possible. It considered it to be vital to establish comprehensive monitoring of schemes to improve water companies' ability to quantify the benefits they can provide (as well as bringing more certainty of impacts, condition of habitats and species, and their ability for resilience), noting this would increase their value in future water resource plans.

Other organisational responses

23.6. The lack of catchment management options in the draft regional plan was highlighted as a significant concern for a number of respondents, including individual local authorities and other organisations who previously supported the catchment management options included in the Emerging Regional Plan. Many respondents identified and supported the wide ranging benefits of catchment options and nature based solutions and were critical of the narrow focus on deployable output benefit as a reason for rejecting their inclusion in the draft regional plan. Wider benefits including natural flood management were also identified as being important.

23.7. South East Rivers Trust stated that its biggest disappointment with the Draft Regional Plan was the lack of Catchment management and Nature-based solutions, as these schemes would allow landscapes (urban and rural) to capture, filter and absorb water, holding it for use in dry periods. It noted that 200 such schemes in 20 catchments were included in the Emerging Plan following significant engagement with stakeholders, however following regulatory guidance requiring the demonstration of the deployable output of these schemes, only two catchments were now included in the first five years of the plan. It stated that this went against the Government's SPS which urges companies to "significantly increase" use of nature and catchment-based solutions, and expected "companies and regulators to work towards delivering these solutions as a matter of preference."

23.8. South East Rivers Trust considered that the guidance must change in time for PR24 to allow the investment in these schemes, despite their inherent uncertainty – recognising the importance of investing in schemes that will underpin water resources resilience, yet also provide other benefits, including reduced water pollution and flood risk, at relatively low cost. The Trust stated that the value of these schemes to climate change should also be recognised: they help freshwater systems adapt to climate change and are a low carbon option. Without greater inclusion of these schemes, the Trust questioned whether the plan presented really did provide a best value plan.

23.9. The South East Rivers Trust also noted that catchment partnerships are the ideal mechanism for delivering these schemes, and that working closely with Catchment Partnerships would help water companies align solutions with objectives in Rivers Basin Management Plans, Flood Risk Management Plans and Local Nature Recovery Plans. Importantly, the Trust commented that it ensures schemes take account of local issues and deliver maximum benefits for people and wildlife, and that catchment partners are able to deliver schemes with local groups that are cost effective and draw on a range of funding sources.

23.10. Blueprint for Water and a number of wildlife trusts were disappointed that given the number of schemes included in the emerging plan, and their clear benefits, that only schemes on the Test and Itchen in Hampshire were included in the draft regional plan. It considered the benefits of such solutions as being the resilience they provide to those waters from which abstraction occurs, and urged WRSE and the water companies to do more to make the case for the inclusion of such schemes and to help build the evidence base so that nature-based solutions can be more readily employed in future.

23.11. The RSPB welcomed the inclusion of catchment and nature-based solutions that improve the water environment as one of the four priorities for the plan. It noted that the plan appropriately referenced the multiple benefits that can be provided by prioritising catchment and nature-based solutions,

and it acknowledged that some of the potential schemes may come through Drainage and Water Management Plans and WINEP rather than the regional plan and WRMPs. It stated it is important that the understanding from monitoring of nature based solutions is brought together across plans, programmes and regions to provide an evidence-base so that nature based solutions can be used more readily going forward. RSPB stated that it continued to advocate for greater prioritisation of them.

- 23.12. The South Downs National Park Authority supported the collaborative nature and forward-looking approach the Plan took, but requested that catchment and nature-based solutions are moved higher up the agenda.

Individual responses

- 23.13. Support was expressed for joint working with other sectors, but there was concern identified at the lack of catchment options in the draft regional plan and requests for more catchment management and nature based solutions to be incorporated into the regional plan.

WRSE's work since the draft regional plan was published

- 23.14. WRSE has continued to explore the potential to include catchment management and nature based solution proposals within the regional plan, consistent with environmental and economic regulatory guidance for the preparation of regional plan and WRMPs. As explained in paragraph 23.16 below, the WRPG has changed since the draft regional plan, allowing more catchment schemes to be included in the plans.

WRSE's response to the issues raised

- 23.15. There are a wide range of nature based solutions and catchment schemes currently being implemented across the region, and the planning and design of these schemes, together with monitoring their effectiveness post completion, will lead to a greater understanding of the wider environmental

benefits that can be secured in the future. WRSE is committed to working through the water companies with environmental regulators, environmental NGOs and catchment partners to investigate and quantify the wider benefits of catchment options, and specifically to use evidence from existing and proposed projects to enable their deployable outputs to be better assessed and included in future plans. For the revised draft regional plan, the regional investment modelling has selected additional catchment management and NBS proposals within the plan, as part of the best value planning process. The inclusion of these options within the plan increases the overall environmental performance of the plan, when compared to a least cost plan.

How the revised draft regional plan has changed in response

- 23.16. As explained above, at the time of the draft regional plan, the WRPG did not allow catchment schemes to be included with regional plans and WRMPs if they did not have a deployable output (water resource) benefit. The WRPG has changed since the draft regional plan was published, and catchment schemes can now be included within regional plans and statutory WRMPs even if there is no deployable output benefit, as long as they improve best value metrics.
- 14.1 Only one scheme within the River Itchen and River Test catchments in Hampshire was selected within the draft regional plan. Following the change to the WRPG, as part of WRSE's investment modelling for the revised draft regional plan, the inclusion of catchment management schemes increased the best value metrics for the plan and so 67 catchment management options are now selected within the plan, across numerous catchments. The incorporation of additional catchment options in this way accords with the strong support expressed in the draft regional plan responses.
- 23.17. These are not the only catchment management and nature based solutions which will be implemented across the region, as others are funded and delivered through wider programmes of work, separate from the regional plan and WRMP processes.

24. Environmental assessments and benefits

What did the draft Regional Plan propose

- 24.1. To determine the environmental effects of the options in the draft regional plan, WRSE undertook a number of environmental assessments of the options and proposals set out in the plan, and alternatives to them. Summaries of the environmental assessments undertaken were published alongside the draft regional plan:
- Strategic Environmental Assessment (SEA) Summary Report
 - Strategic Environmental Assessment (SEA) Environmental Report
 - Habitats Regulation Assessment (HRA)
 - Natural Capital and Biodiversity Net Gain (BNG)
 - Water Framework Directive (WFD) Assessment
- 24.2. The assessments undertaken reflected the strategic nature of the regional plan and the stage of its preparation. WRSE noted that there were separate and more detailed environmental assessments of the six company WRMPs that were published as part of the consultation on those draft WRMPs. Further and more detailed assessments, including (where appropriate) Environmental Impact Assessments will also be undertaken of individual schemes as part of future applications for planning and other consents.

Summary of issues raised in responses

Regulatory responses

- 24.3. The EA stated it was not clear how the findings from the SEA had influenced the selection of options for the regional plan and how this had influenced final decision making on the plan. It considered that the development of alternatives and link back to the individual options assessments was not easy to follow and required further clarification to fully understand which options were to be taken forward and why. It stated that the lack of detail on the alternatives considered and justification for preferred option selection meant that the SEA did not meet the requirements of the SEA regulations to justify reasons for selecting reasonable alternatives considered, and to

evaluate their likely significant effects. The EA stated that the temporal scope of the SEA had not been defined, so it was not clear if this matched the temporal scope of the plan. Whilst some information on monitoring has been provided, it was concerned that the Environmental Report failed to provide details on all of the matters required, most notably about making provision for remedial action in the event of unforeseen circumstances.

- 24.4. Natural England stated that the Habitats Regulations Assessment (HRA) for the draft Regional Plan should be updated to include sufficient information to support the conclusions of the screening and assessments, including understanding impact pathways, identifying the sites and interest features at risk, and the extent to which impacts can be avoided and/or mitigated. It stated that the HRA should be reviewed to ensure that all relevant sites, features and options have been included.
- 24.5. Natural England commented that the SEA of the draft Regional Plan was not a complete SEA of the Plan, rather it focused on the assessment of cumulative and in-combination impacts between a subset of options within the Plan. It stated that individual option assessments had not been presented, to avoid duplication with water company WRMP SEAs. Natural England understood the desire to avoid duplication but stated it was unable to comment on the quality (and compliance) of the assessments, or the overall impact the plan could have on the environment.
- 24.6. Natural England was concerned that some considerable environmental impacts are forecast in the draft Regional Plan which require full assessment to ensure impacts are avoided wherever possible and/or effective mitigation or alternative options are identified as soon as possible. It commented that the SEA identified major negative residual effects for the construction and operational phase for the objective on biodiversity, flora and fauna. Impacts on landscape were assessed to be negative during construction, and positive during operation. Natural England also provided detailed comments on the BNG and Natural Capital assessments of the draft regional plan, requesting them to be updated and completed.

24.7. The Forestry Commission noted that development associated with the regional plan is expected to result in the direct loss and impact on ancient woodland sites, and stated that the regional plan should exhaust efforts to avoid impacts on ancient woodland, ancient trees and veteran trees. It encouraged a clear commitment to being nature positive and delivering targets for measurable environmental gains, including biodiversity net gain, on all development associated with the plan. The Commission also encouraged the exploration and adoption of specific measurable targets associated with woodland/tree cover to contribute to meeting the national tree canopy target being considered by Government. It also considered that all efforts should be taken to avoid loss of other trees and woodland, especially where they complement the wider network of ancient woodland, and encouraged maximising the use of trees and woodland (and other nature-based solutions), to deliver multi-functional benefits. The Forestry Commission also provided detailed comments on the SEA Framework, and ways it could be strengthened.

24.8. Historic England was concerned at what it saw as inadequate reference to the historic environment within the draft regional plan, or in the assessment of potential impacts associated with the options selected in the plan. Historic England wished to see heritage impact assessments completed to inform site selection and detailed work on individual options. It also commented that the SEA was not particularly easy and clear to follow – with lots of abbreviations, and locations of schemes not always clear making it difficult to assess potential impacts.

Organisational responses

24.9. The RSPB noted that the HRA Report supporting the draft regional plan identified that there is the potential for Likely Significant Effects (LSE) as a result of options included in the draft regional plan, to a large number of sites within the UK's National Site Network (NSN) of European designated sites, as protected by the Conservation of Habitats and Species Regulations (2017). It stated that this illustrated the considerable threat that future water resource management presents to these designated sites. It is stated that at this stage it is not possible to provide further detail on the potential

in combination effects on the designated sites and that this would need to be assessed in detail through Appropriate Assessments. It considered it essential, and a legal requirement, that any impacts to designated sites are minimised and strongly urged that opportunities to enhance and improve resilience of these designated sites, through better water management, are explored as a priority.

24.10. The RSPB also noted that the requirement is to deliver at least a 10% BNG, and therefore this must be considered as a minimum, and it would strongly encourage a more ambitious target (minimum 20% BNG). The RSPB wanted to see a clear commitment within the plan to ambitious BNG, which contributes to the delivery of strategic local, national and international ecological networks, through Local Nature Recovery Strategies. RSPB urged that the mitigation hierarchy is followed to any potential habitat loss (avoid harm as priority, mitigate where this is not possible and compensate as a last resort). It stated that it had identified that options within the draft regional plan would result in the permanent loss of ancient woodland, and that the loss of this irreplaceable habitat is not acceptable and every effort should be made to modify proposals to avoid a loss of ancient woodland.

24.11. Blueprint for Water and a number of wildlife trusts welcomed WRSE's work based on achieving 10% biodiversity net gain, but stated that as the legal minimum, they would hope that WRSE can be more ambitious than this, targeting 20% in the final plan. In addition, in common with most of the draft regional plans, it identified no reference to Local Nature Recovery Strategies and considered that these should be used to guide delivery of BNG to ensure that preferred options contribute more strategically to the recovery of nature. It stated it was pleased to read in the plan that carbon impacts and opportunities to mitigate the carbon intensity of options have been considered via model runs; noting the tension between a plan optimised for carbon and one optimised for other 'best value' metrics such as natural capital or BNG. It would welcome consideration of how residual carbon emissions could be best offset.

- 24.12. Waterwise, whilst pleased to see the analysis of the carbon footprint of the draft plan was disappointed that the potential carbon saving benefits from reducing water demand that were highlighted in the emerging plan appear to have been overlooked in the draft plan with only carbon costs presented for demand management interventions.
- 24.13. Some local authorities were concerned that the WRSE environmental assessments gave more weight to large scale solutions like the SESRO Reservoir proposal, despite their significant impact on the environment and carbon emissions.

WRSE's work since the draft regional plan was published

- 24.14. WRSE and our member companies have continued to progress the environmental assessments of the options in the regional plan and individual WRMPs since the publication of the draft regional plan. This has included ensuring that the assessments take account of updated information submitted on Strategic Resource Options (SROs) as part of the RAPID gated process, including updated environmental, carbon and biodiversity net gain assessments. WRSE and the companies have also reviewed and updated the assessments in light of comments received on the draft regional plan.

WRSE's response to the issues raised

- 24.15. A number of the comments on the options selected in the emerging regional plan raise specific and detailed comments and concerns about the potential environmental impacts associated with their construction and operation. It is important to note that WRSE is preparing a regional plan, which sets out the overall strategy for meeting the water resources needs of the South East region over a lengthy planning period. The options selected in the plan are being subjected to technical and environmental assessments of appropriate detail for such a regional plan. These are not, however, detailed environmental impact assessments (EIA) such as would be necessary to support the consideration of individual applications for planning and other consents.

- 24.16. The environmental assessment reports undertaken for the draft regional plan have been further updated for the revised draft regional plan, taking account of updated environmental and scheme information, and to consider and respond to comments submitted on the draft regional plan, including from the environmental regulators and other organisations and individuals.
- 24.17. WRSE and our member companies have engaged with our environmental regulators over the details of the environmental assessments undertaken, and the comments received as part of the draft regional plan consultation. This included comments on the approach to assessments and the details of the assessment outcomes on individual options. WRSE and our member companies have developed a tiered approach for the environmental assessments of the regional plan and the options selected within it, through engagement with the Environment Agency and Natural England. This approach ensures that appropriately detailed environmental assessments are completed for the plan, with a greater level of detail focused on the plan and options within it in the periods 2025 to 2035, and 2035 to 2050, than for the longer term options in the 2050 to 2075 period.
- 24.18. Updated environmental reports are published alongside the revised draft regional plan. Where options with a potential for adverse environmental effects are selected in the plan, this is identified in the environmental reports, along with details of appropriate mitigation or compensatory measures that may be required to be considered through subsequent and more detailed work as part of applications for planning and other consents.
- 24.19. For those options later in the planning period, a description of environmental risks relating to the options is set out in the environmental reports, and additional work to further investigate them will be undertaken through subsequent regional plan and WRMP 5 yearly plan making cycles. For some longer term options, potential alternatives to these options may need to be identified and considered as alternatives through subsequent plan cycles should environmental risks and impacts not be capable of being overcome.

- 24.20. The regional plan is one part of the overall process for the consideration and identification of options, which also involves the individual company WRMPs, the RAPID gated process for the SROs under consideration, and subsequent applications for planning and other consents. Some of the detailed issues raised by respondents, for example concerns about the impacts of detailed construction processes for the options will not be fully explored until the EIA for the scheme is prepared, in some cases a number of years in the future.
- 24.21. Turning to wider environmental issues, WRSE has calculated Biodiversity Net Gain (BNG) for all options available for selection as part of the regional plan investment modelling. These assessments do not take account of the likely consent route for the individual options and apply a 10% net gain across the board for individual schemes.
- 24.22. There is the potential that this approach over-states BNG as current Government BNG requirements do not apply to schemes that do not require planning permission or Development Consent, and a number of the schemes in the regional plan may be promoted using water company permitted development rights. However, equally, as individual schemes are promoted through the planning process, there is the clear potential for higher than 10% net gain to be achieved on a scheme by scheme basis. There is also the potential for companies to provide BNG on a voluntary basis as part of company-wide BNG delivery.
- 24.23. WRSE's approach to the consideration of BNG is considered to be an appropriate approach at this plan making scale, and a robust basis for quantifying BNG for the plan as a whole.
- 24.24. In relation to carbon, WRSE's carbon assessments have robustly sought to identify and assess the potential carbon associated with both the construction and operation of options selected as part of the regional plan. Carbon metrics were identified for each option available for selection in the

investment modelling and carbon metrics formed part of the best value decision making for the regional plan.

- 24.25. WRSE has considered embedded carbon in construction, including assumptions around the de-carbonisation of construction methods and materials over the planning period. On a similar basis, WRSE has also considered and incorporated assumptions relating to the de-carbonisation of the energy grid over time. The progression of individual schemes through the planning and other consenting processes will provide for more detailed assessments of carbon for individual schemes. Both as part of the progression of those schemes, and at a wider company or plan level WRSE's member companies will also explore the potential for carbon offsetting.

How the revised draft regional plan has changed in response

- 24.26. WRSE and our member companies have developed a tiered approach for the environmental assessments of the regional plan and the options selected within it, through engagement with the Environment Agency and Natural England. This approach ensures that appropriately detailed environmental assessments are completed for the plan, with a greater level of detail focused on the plan and options within it in the periods 2025 to 2035, and 2035 to 2050, than for the longer term options in the 2050 to 2075 period.
- 24.27. WRSE and our member companies have taken the feedback from our environmental regulators and other respondents on the draft regional plan and its related environmental assessments into account in updating the environmental assessments for the revised draft regional plan.
- 24.28. Updated environmental reports will be published alongside the revised draft regional plan, and WRSE has updated Section 16 of the regional plan to explain the changes that have been made.

25. Other issues raised

Summary of issues raised in responses

Regulatory responses

- 25.1. The EA noted that the work WRSE had undertaken is complex, ambitious and may be a new concept for some stakeholders and customers. It considered it important that stakeholders could readily access the technical detail for the regional plan, particularly due to the links with companies' individual WRMPs. The EA stated that whilst the structure of the regional plan had been amended from the emerging plan submission, in its view, this had not improved the accessibility of the plan and resulted in a lot of repetition between the different documents. It suggested WRSE reconsidered the structure of its regional plan commentary in order to help stakeholders fully understand the plan and how it has been derived. A large amount of technical information is included within accompanying method statements and supporting documents. The EA stated that WRSE should consider if some information from these would be better used within the WRSE regional plan itself to help support, explain and justify the best value plan.
- 25.2. The EA also commented that the draft regional plan included a narrative on the decision-making process undertaken to identify the best value plan for the region. However, it considered that the evidence and justification for the selection of the best value plan could be strengthened, and that this was especially important given the number of strategic resource options being selected in the plan. Whilst there is an assumption that this detail will be provided in WRMPs, the EA stated that the WRSE plan needs to be standalone, as do the WRMPs, to enable stakeholders to understand the decisions made to determine the preferred plan.
- 25.3. The EA highlighted that there are also many sensitivity tests that have been undertaken, with graphics presented in the Investment Modelling Draft Regional Plan Results Report. It understood that these have been undertaken on the Least Cost Plan rather than the best value plan. It stated that there was limited narrative to accompany these tests and therefore it was difficult for the reader to interrogate the impacts on option selection or understand how the sensitivity testing had justified the selection of the best value plan.
- 25.4. The EA stated it was disappointing that WRSE submitted its data tables to support its regional plan later than expected in the consultation period. This had impacted its ability to assess the proposals within the regional plan and decreased the opportunity for better understanding of wider aspects of regional plans that were not considered within WRMPs. For the final regional plan, the EA strongly encouraged WRSE to complete and submit regional plan data tables alongside the publication of the plan.
- 25.5. The EA considered that there was a lack of detail regarding the metrics that would be used to measure progress, what the thresholds would be to trigger a change to the plan, and how these informed the decision points. It noted that the plan reported that the monitoring of some supply-demand components would be completed by water companies in annual reviews for the WRMPs, however, it was not clear how this would feed back into the regional plan.
- 25.6. The EA was pleased that WRSE had produced a best value plan which identified the options required to meet the deficits forecasted, and that it had provided high level information on the options considered and selected to meet the deficits under each scenario. However it considered that the level of detail was limited, particularly on individual options, making it difficult to understand if options put forward were environmentally sustainable and whether options had been appraised fairly. It suggested that WRSE could consider including more detail on options, or clearly link to companies' WRMPs once published. It noted that WRSE had taken on board the EA's recommendation from the emerging plan consultation and provided a rejection register to accompany its option appraisal. However, it stated that this did not include the reasons for rejection, so it was still unclear to stakeholders and customers why some options had been deemed infeasible and not progressed.

- 25.7. The EA stated that it was vitally important that demand savings forecasted were achieved and it encouraged WRSE to liaise closely with its water company members over the next few years to ensure that the regional plan reflects delivery, including the actions that will be undertaken to achieve these savings, timescales for delivery, and the risks of not achieving them. It stated that as a region, WRSE will need coordinated, active monitoring of demand performance and defined decision points to ensure this risk is managed appropriately.
- 25.8. In the final regional plan, the EA requested that WRSE clearly set out the steps it has taken to consider the impact of environmental policies and positions in its appraisal of all supply-side schemes within the regional plan. It stated that the plans should demonstrate that preferred supply-side schemes within the regional plan align with developing abstraction licensing policies and positions, and that any remaining uncertainties are understood, planned or and mitigated. In particular, the EA was keen to understand how WRSE had assessed the future risks and planned mitigation for managing competing demand for future water through licensing, and in managing future risks related to emerging substances. In the final regional plan, the EA expected the impacts of future policy uncertainties to be clearly stated and what alternative scheme or approach was proposed should it not be possible to overcome those associated risks. It considered that not considering the implications of those positions within the regional plan may present a risk to option feasibility as well as a risk to the environment if planned schemes could not be delivered.
- 25.9. In relation to target headroom, the EA commented that WRSE had provided some further explanation on its approach to Target Headroom however it was still not clear whether uncertainty, especially for climate change, had been accounted for correctly in all situations. The EA recommended that WRSE presents how the uncertainty that had been taken out of headroom to avoid double counting within the adaptive plan had been accounted for in each situation, and whether this was consistent across all the WRSE companies.

- 25.10. Ofwat stated that for its final plan, WRSE needed to ensure that the main document summarises and signposts technical annexes and supporting documents to strengthen the main decision-making narrative in an accessible way. It requested that WRSE should provide a succinct and dedicated explanation of how the big supply options, such as the strategic resource options (Severn to Thames Transfer, SESRO, Thames to Southern Transfer, Thames to Affinity Transfer) work together in terms of timing, order and utilisation. The explanation should set out clearly how the larger schemes have been optimised based on their differing characteristics, costs and benefits, and that this was needed to demonstrate that the plan had been worked out and planned from a practical and operational perspective as well as using model outputs.
- 25.11. Ofwat stated that some relevant information was not provided, or provided after the consultation date. It was concerned that the data tables had not been published, stating that it was important that all relevant information was published alongside WRSE's final plan. Ofwat also noted that WRSE did not include choices regarding bill impacts, instead leaving those for the WRMPs. While it accepted that estimates of bill impacts are more meaningful at a company level, it considered that WRSE should present the range of bill impacts in its engagement as this would be critical to informing views on priorities regarding key areas such as improvements to drought resilience. Ofwat stated that WRSE should clarify how bill impacts have been considered as part of the final plan.
- 25.12. Ofwat noted that WRSE presented a clear description of its approach to, and methods for, decision-making, and regional plan objectives are clearly set out. However, it stated that draft plan Technical Annex 2 pointed to the WRMPs for the explanation of the final strategy. Ofwat was concerned that in some instances within company plans the explanation around decision making was lacking, and that WRSE should make sure this was standalone for the final plan.
- 25.13. Ofwat noted that Table 8 within the best value planning method statement (December 2022) described the programme-level calculations planned for the best value metrics. It stated that WRSE needed to be clear whether these

programme-level calculations had been completed, and present them clearly in its final plan, these include environmental assessment, deployable output, and resilience.

- 25.14. Whilst Ofwat welcomed WRSE's approach to assessing costs of carbon, it stated that WRSE needed to improve its plan narrative around exploring the sensitivity of decision making to carbon, and identifying trade-offs, and to demonstrate that carbon was being considered as part of decision making.
- 25.15. Ofwat noted that WRSE had generally selected lower unit cost options, however, there were some examples where this was not the case. It highlighted for example, that South East Water had alternative leakage reduction options with lower unit costs than those selected, and Thames Water's metering innovation options had very high unit costs. It stated that in those cases it expected WRSE companies to explain why lower cost options had not been selected, and that this may be, for example, because the options selected presented better value overall as part of an optimised programme.
- 25.16. The Forestry Commission commented that a considerable proportion of South East drinking water resources are derived from chalk aquifers, and it was surprised that the challenge of nitrate levels within these aquifers and how they will be addressed into the future did not feature in the draft regional plan.

Organisational responses

- 25.17. RSPB requested longer term engagement with interested parties to enable greater familiarity with WRSE's modelling approach and other technical aspects of the plan, with results presented in a way that enabled stakeholders to easily understand and as appropriate challenge the key assumptions and outputs of the analysis.
- 25.18. Some respondents concerned about or opposed to options selected in the plan considered that there was a lack of specific information published on

the costs and benefits at an option level, rather than for the plan as a whole, making it difficult to compare and contrast option choices.

- 25.19. Concerns were also expressed by some organisations and local authorities that WRSE was not taking on board the level of opposition to options including the SESRO Reservoir proposal, expressed in previous consultations, and that the plan remain unchanged despite the feedback.
- 25.20. The South East Rivers Trust noted that a significant proportion of the potential deficits in the regional plans were driven by the need to provide water to support new development. It considered that the Water Industry should play more of a role in planning decisions, noting that in the current situation, water companies are consultees on (strategic) Local Plans, but not on individual planning applications, and that it considered water companies should be statutory consultees when it comes to new development. If new developments could not be provided with adequate water without causing environmental harm, then the Trust stated they should not be allocated in Local Plans or given planning permission.

Individual responses

- 25.21. A number of respondents, in relation to both the SESRO Reservoir proposal and the Hampshire Water Transfer and Water Recycling Project expressed concerns that WRSE and the water companies had not adequately responded to comments made in opposition to the options in previous consultations.
- 25.22. There were extensive negative comments about water company performance, the issue of shareholder profits, and concerns were expressed about the environmental impacts of storm and other discharges to the environment.
- 25.23. Some responses suggested that WRSE's documents could be better presented – with clearer explanation of the proposals and their impacts. Some respondents considered the consultation questions to be hard to answer, or obvious to answer.

WRSE's response to the issues raised

- 25.24. There are a wide range of other issues raised in consultation responses on the draft regional plan. WRSE has taken them all into consideration as part of its work to prepare the revised draft regional plan, and has commented on themes and issues raised in the section below.
- 25.25. Notwithstanding that both technical documents and summary consultation documents were published as part of the draft regional plan consultation, some respondents commented that the documentation was difficult to read and could be improved. WRSE has carefully considered this and has updated both the structure and content of its revised draft regional plan in response.
- 25.26. The revised draft regional plan now includes a clearer explanation of the overall strategy in the regional plan, drawing together information from different sections of the draft plan, appropriately updated, to describe what the proposals in the plan are, where schemes are located, and when they will be delivered. As part of this, new information has been included to show the linkages and interactions between strategic schemes within the region, and between the South East and other regions, using maps and diagrams. This describes how water resources in the South East are shared currently, and how this changes over the period of the regional plan, including where and when new strategic resources and transfers are developed, and how these improve the resilience of supplies within sub-regions and the region as a whole.
- 25.27. A number of responses asked for further details around adaptive planning monitoring, including what WRSE and the water companies will monitor and how they would determine that changes within the adaptive plan need to be made. The draft regional plan made clear that monitoring would be undertaken within the context of the water companies existing WRMP annual reviews, and the five yearly plan making cycle for regional and company plans. WRSE's monitoring proposals include the collection and analysis of various existing environmental and water supply data, as well as the progress with the delivery of demand management and supply options set out in WRMPs, and WINEP investigations. More widely, monitoring would also include updated climate change and environmental forecasts, updated population data and housing forecasts through local plan annual monitoring reports. WRSE has updated the monitoring section (section 19) of the regional plan with clearer information to explain this approach.
- 25.28. In relation to costs and bill impacts, a number of respondents expressed concerns that the level of detailed information relating to costs and bill impacts was not provided at a regional level, instead relying on detailed information within individual company WRMPs.
- 25.29. WRSE maintains that customer bill impacts are appropriately reported at company level through WRMPs and Business Plans, particularly as customer bill impacts reflect not only water resources related costs, but also other operational cost impacts including wastewater operations. The draft regional plan set out the overall cost of the regional plan proposals and to identify the drivers for the significant financial cost associated with the scale of the challenges being faced by the region – including achieving required levels of demand management and leakage reduction, and levels of environmental ambition and abstraction reduction.
- 25.30. A wide range of respondents expressed concerns about the unacceptability and environmental impact associated with sewage discharges, mirroring the concerns expressed publicly and in the media by many organisations and individuals across the South East region. Whilst this is not a water resources issue specifically, some respondents highlighted that what was seen as a lack of action on this issue by water companies could lead to wider distrust of companies, and undermine support for water resources plans as a consequence. This was highlighted specifically as a concern given the reliance of the regional plan and individual WRMPs on customer behavioural change to achieve the high planned levels of water efficiency in the future.
- 25.31. Although outside of the remit of the water resources regional plan, WRSE notes that Thames Water and Southern Water are both committed to tackling this issue and have developed detailed proposals for improvements. This includes significant investment in bringing forward improvements in the short-term. WRSE acknowledges the widespread and strong representations

it has received on this issue, and recognises the need for urgent and prolonged action on sewage discharges to deliver the necessary improvements. Thames Water and Southern Water's detailed proposals are being consulted on through separate engagement on their Drainage and Wastewater Management Plans.

How the revised draft regional plan has changed in response

- 25.32. The revised draft regional plan has been updated to reflect the changes outlined in the section above, with the documentation re-structured and clearer explanatory information added in response to consultation responses.

26. Summary of key changes to the draft regional plan

- 26.1. The revised draft regional plan is published alongside this Consultation Response document. The content of the regional plan has been updated to reflect updated data and information since the draft regional plan was published, including population and growth data, and to reflect the updated Government policy requirements and guidance that must be followed. It also incorporates the outcomes of the updated regional investment modelling and presents the updated best value plan. WRSE has also taken the opportunity to update the structure and level of detail in the regional plan documentation, reflecting comments received on the draft regional plan.
- 26.2. The table below provides a summary of the main changes in the revised draft regional plan.

Regional plan section	WRSE changes to the draft regional plan
Whole Plan	Document restructured and detail amended to reflect consultation feedback.
Population and Demand Forecast	Updated population and growth forecasts, and household and non-household demand forecasts, including covid impacts on demand, as set out in Section 4 of the revised draft regional plan.
Environmental Forecast and Environmental Ambition	Updated environmental profiles from member companies, reflecting continued engagement with regulators and stakeholders, as set out in Section 4 of the revised draft regional plan.
Best value planning and decision making	Clearer explanation of best value planning and decision making processes, as set out in Sections 8 and 17 of the revised draft regional plan.

Regional plan section	WRSE changes to the draft regional plan
Demand Management Options	Updated demand management options within the plan, and commitment to meet the Government's Environmental Improvement Plan targets, including interim targets. This brings forward demand management measures earlier in the plan period, as set out in Section 11 of the revised draft regional plan.
Drought options	Updated list of available drought options and environmental assessments of drought options incorporated into the regional plan, with updated list of drought options selected as set out in Section 15 of the revised draft regional plan.
Water resources options	<p>Updated scheme information, cost, best value metrics and delivery dates incorporated into the investment modelling. Updated best value plan selected and presented in the revised draft regional plan, including changes to water resources options selected, timing and deployable outputs, as set out in Sections 9 to 17 of the revised draft regional plan.</p> <p>The full details of the options selected are set out in the revised draft regional plan document, with the most significant changes from the draft regional plan being:</p> <ul style="list-style-type: none"> • The SESRO reservoir proposal is selected at a size of 150 million cubic metres of storage (Mm3) in the revised draft regional plan, larger than the 100 Mm3 size selected in the draft regional plan • The Grand Union Canal (GUC) transfer proposal is selected as a single 100 Ml/d (mega litres a day) option in the revised draft plan, bringing forward the second phase from the proposals in the draft regional plan

Regional plan section	WRSE changes to the draft regional plan
	<ul style="list-style-type: none"> The Severn Thames Transfer proposal is not selected in the investment modelling in the revised draft regional plan, but will continue to be advanced through technical and other assessments as there is a risk that the scheme may still need to be delivered under alternative adaptive plans to our current proposals The revised draft regional plan selected an increased number of catchment management options compared to the draft regional plan. Changes to individual scheme delivery dates, and changes to the details of schemes selected, as set out in detail in the revised draft regional plan document.
Environmental assessments	Environmental assessments updated to reflect updated scheme information, feedback from environmental regulators, and additional assessment work undertaken since draft regional plan, as set out in Section 16 of the revised draft regional plan.
Southern Water scheme delivery	Sensitivity testing of scheme delivery for the Hampshire Water Transfer and Water Recycling Project delivery date, and confirmation this change (if agreed) does not affect the wider regional plan, as set out in Sections 12 and 17 of the revised draft regional plan.

Materiality of the changes to the plan

- 26.3. In November 2022, the Regional Coordination Group (RCG) and the All Company Working Group (ACWG) produced a paper setting out materiality framework for company and regional plans to assess how to manage changes and updates to the regional plans. The paper set out criteria for

when re-consultation may be required, and for when the regional reconciliation process may need to be re-run. This paper was [published on the WRSE website](#), in advance of the publication of the draft regional plan and draft statutory WRMPs in November 2022.

- 26.4. WRSE have undertaken a high-level materiality assessment of the revised draft regional plan proposals, taking the ACWG materiality framework into account, as well as company, regulatory and legal advice. The materiality assessment has been based on a review of the changes between the draft regional plan and the revised draft regional plan modelling outputs.
- 26.5. WRSE has concluded that the nature and details of the changes made to the regional plan do not require re-consultation on the regional plan proposals.
- 26.6. The draft regional plan provided information on a range of scenario and sensitivity testing work undertaken by WRSE, including in relation to the timing and delivery of policy objectives, and for the scale and delivery of strategic options included within the plan. This information, including in relation to the consideration of the size of the SESRO reservoir proposal options, was set out and consulted on as part of the draft regional plan and company WRMPs.
- 26.7. WRSE notes that Southern Water is planning to seek permission from the Secretary of State to re-consult on its statutory WRMP following its own assessment of changes it is proposing to make to its plan. WRSE has (as explained in Section 19 of this document) carefully considered Southern Water's revised proposals and demonstrated that the impacts of these changes are isolated to within Southern Water, and do not impact the other five companies. It has also demonstrated that there are no options available at a regional level (i.e. within other companies) that can assist Southern Water with short term deficits that may arise through its proposed changes.

27. Overview of next steps in the regional plan process

- 27.1. The revised draft regional plan is being published for information, and not for a further period of public consultation. The publication of the revised draft regional plan is to support the ongoing and separate statutory processes being undertaken by WRSE's member companies to prepare their individual Water Resources Management Plans (WRMPs).
- 27.2. Following consultation on draft WRMPs in late 2022 and early 2023, the companies have themselves prepared Statements of Response, identifying the comments received on their statutory draft plans and how the WRMPs have changed as a result. Those Statements of Response and revised drafts of the WRMPs have also now been published by five of the six companies. Details are on their respective websites.
- 27.3. Affinity Water, Portsmouth Water, SES Water, South East Water and Thames Water have submitted their statutory revised draft WRMPs and their Statement of Responses to Government and will now wait for it to indicate whether they can finalise their plans, whether further changes need to be made, or whether a hearing or inquiry into the WRMP is required before finalisation. The five companies expect to hear from the Government before the end of 2023.
- 27.4. The sixth company, Southern Water, has published its Statement of Response on its website and submitted its revised draft WRMP to regulators. Southern Water will publish its revised draft WRMP when given permission to undertake further consultation on its WRMP by the Secretary of State. Southern Water would then prepare a further Statement of Response document and may need to further update its revised draft WRMP before submitting it to Government to request permission to publish its final plan.
- 27.5. As the regional plan is non-statutory, unlike the company WRMPs, WRSE will wait to learn the Government's feedback on the individual company revised draft WRMPs before finalising the regional plan. This will enable it to ensure that the regional plan and company WRMPs are aligned on completion of this cycle of planning. WRSE is also working closely with the other regional water resources groups to ensure alignment between regional plans.
- 27.6. Whilst the revised draft regional plan that has been published alongside this consultation response document represents the current regional plan proposals, WRSE will continue to liaise with its member companies during Autumn 2023 as they look to finalise and publish their WRMPs, and engage with the regulators to ensure that our final regional plan is published as soon as possible. Whether the final regional plan will need to take account of further changes will not be known until the WRMPs for the companies are finalised.
- 27.7. Where individual company WRMPs are not yet finalised when our final plan is published, we will ensure our plan clearly identifies how it can and will adapt to any changes to remaining WRMPs as they are finalised themselves. WRSE currently anticipates that the earliest the final regional plan will be published is early to mid 2024.
- 27.8. WRSE will ensure that it regularly updates on progress on [its website](#).

Appendix 1: List of respondents

Respondent

Government:

Environment Agency; Natural England; OFWAT; Historic England

MPs:

Siobhan Baillie MP (Stroud); David Johnston MP (Wantage and Didcot); Layla Moran MP (Oxford West and Abingdon).

Regional/Local Government:

Arun District Council; Ashford Borough Council; Basingstoke & Deane Borough Council; Buckinghamshire Council; Cheltenham Borough Council; Chichester District Council; Crawley Borough Council; Dacorum Borough Council; Eastbourne Borough Council; Eastleigh Borough Council; Folkestone & Hythe District Council; Gravesham Borough Council; Hampshire County Council; Horsham District Council; Kent County Council; Lewes District Council; London Borough of Tower Hamlets; Maidstone Borough Council; Mid Sussex District Council; Oxfordshire County Council; South Downs National Park Authority; South Oxfordshire District Council; Swale Borough Council; Test Valley Borough Council; Vale of White Horse District Council; Waverley Borough Council; West Sussex County Council; Winchester City Council; together with individual elected Councillors or officers of these or other councils

Parish/Town Councils or individual councillors:

East Hanney; East Hendred; Garford Village Meeting; Ringmer; Rowlands Castle; Steventon; St Helen Without; together with individual elected Councillors

Regional groups:

Water Resources East; Water Resources West

Business/Consumer organisations:

Consumer Council for Water (CCW); Waterwise; NFU; Country Land and Business Association; Confederation of Paper Industries; West Sussex Growers Association; Energy UK; British Marine; Horticultural Trades Association;

CPRE Branches:

South East

Wildlife Trusts:

Sussex; Gloucestershire; Hampshire & Isle of Wight; Herts & Middlesex

Canals, rivers and environmental organisations:

Action for the River Kennet; Blueprint for Water; Canal and River Trust; The Inland Waterways Association; South East Rivers Trust; Port of London Authority; Cotswold Canals Partnership; Cotswold Canal Trust; Proprietors of the Stroudwater Navigation; Darent Valley Trout Fishers; Stroud Valleys Canal Company; The Revival Association; Friends of the Ems; Friends of the Westbrook and Stonebridge Pond

Campaigning organisations:

GARD; Wantage and Grove Campaign Group; Faversham Society; Havant Green Party; Havant Climate Alliance; Solent Protection Society Council; Oxfordshire Environment Board; Hayling Sewage Watch; Save our South Coast Alliance (SOSCA)

Other organisations:

Forestry Commission England; Royal Society for the Protection of Birds (RSPB); ESP Water Ltd; Waterlevel Ltd; Waterscan; Thakeham Homes; Institute for Civil Engineers (ICE); Jonathan Fisher Environmental Economics; Oxford Sailing Club; Oxford Sail Training Trust; Haver Castle; Fitch Ratings; North Berkshire Radio Model Aircraft Society;

Individuals:

Residents in areas affected by individual options, other water company customers and members of the public

Appendix 2: Glossary and abbreviations

Acronym	Term	Definition
1:500	1:500 year level of drought resilience	Being resilient to a drought that would happen on average once every 500 years – or it has a 0.2% chance of happening every year
	Abstraction	Taking water from the environment (under license from the Environment Agency) for use in the public water supply or industry
	Adaptive Planning	<p>Adaptive planning allows us to account for uncertainty, such as different impacts of population growth and climate change, which is useful when planning for the future.</p> <p>For each new plan, we monitor how previous ones have been implemented and incorporated new forecasts into modelling. We're then able to adapt future plans to meet different scenarios, based on this understanding.</p>
AMP	Asset Management Plan	Water company business plan (prepared on five yearly cycle)
	Aquifer	A body of rock and/or sediment that holds groundwater
ASR	Aquifer Storage and Recovery	Injecting additional fresh water from other parts of an aquifer or from the rivers into a confined area within the aquifer. It can then be stored and pumped back to the surface and treated when needed

	Best Value Plan	<p>A best value plan is one that considers factors alongside economic cost and seeks to achieve an outcome that increases the overall benefit to customers, the wider environment and overall society.</p> <p>Regional plans should identify the best options to meet the challenges we face, delivering best value for the environment and society.</p>
	Business Plan	Water companies develop and submit business plans every five years to Ofwat, the economic regulator. These plans set out the commitments companies make to their customers and how they will meet them.
	Catchment	The area from which precipitation (rainfall) and groundwater would naturally collect and contribute to the flow of a river
CSF	Chalk Streams First	Initiative promoting abstraction reduction for chalk streams in the Chilterns
	Cost-efficient	A cost-efficient planning process assesses all options which meet both company and WRSE feasibility threshold against whole life delivery costs including the cost of carbon. The resulting plan therefore represents the lowest programme costs to deliver required policy outcomes and core strategic objectives. A cost-efficient plan does not include, in its selection processes, other benefits, additional value and/or wider objectives.

Defra	Department of Environment, Food & Rural Affairs	UK Government department responsible for environmental matters – including water resources planning.
	Desalination	A process where seawater or brackish water is turned into drinking water by removing the salt, providing a reliable source of water including during droughts
	Demand management	Measures taken by water companies to support customers reduce the amount of water they use, and leakage
DO	Deployable output	The output of a source or bulk supply as constrained by licence (if applicable); pumping plant and/or well/aquifer properties; raw water mains and/or aqueducts; transfer and/or output main; treatment; water quality
DI	Distribution Input	The flow entering the water supply distribution network
	Draft Regional Plan	The draft WRSE regional plan published for consultation in November 2022.
	Drought Permit	An authorisation granted by the Environment Agency under drought conditions, which allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis

	Drought Order	Powers granted by the Secretary of State during drought to modify abstraction/discharge arrangements on a temporary basis
DYAA	Dry year annual average	Represents a period of low rainfall and unrestricted demand and is used as the basis of a WRMP
DYCP	Dry year critical period	The period(s) during the year when water resource zone supply demand balances are at their lowest
EIP	Environmental Improvement Plan	The Government's delivery plan for the environment, published in January 2023
ERP	Emerging Regional Plan	The document published by WRSE for consultation in January 2022
EA	Environment Agency	The regulator responsible for environmental protection and enhancement – part of the Defra family
EIP	Environmental Improvement Plan	The Government's delivery plan for the environment, published in January 2023
	Groundwater	Water held underground in the soil or in voids in rock
GUC	Grand Union Canal	A canal stretching 137 miles from London to Birmingham with arms into Slough, Aylesbury, Leicester and Northampton

	GUC transfer proposal	A proposal to use the GUC to transfer water from the midlands to the south east of England
HRA	Habitat Regulations Assessment	Assessment to consider the likely significant effects on designated Habitats (European) sites
	Headwater	Permanently flowing tributaries feeding a river system
INNS	Invasive Non-Native Species	Any non-native animal or plant with the ability to spread, causing damage to the environment and the way we live
I/p/d I/h/d	Litres per person per day Litres per head per day	Water efficiency units used in the regional plan.
MI/d	Mega litres per day	Millions of litres per day. Unit of measurement for flow in a river or pipeline.
mtCO ₂ e	Metric tons of carbon dioxide equivalent	The unit "CO ₂ e" represents an amount of a greenhouse gas whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO ₂), based on the global warming potential of the gas.

	Natural Capital	Our stock of natural resources, including, soils, air, water and all living organisms. Some natural capital assets provide "goods and services", often called ecosystem services.
	Nature-based solutions	Sustainably managing natural features and processes to deliver wider benefits for customers – such as catchment management or river restoration
NE	Natural England	The Government's adviser for the natural environment in England
NEP	National Environment Programme	A list of environment improvement schemes that ensure water companies meet European and national targets related to water
	National Framework for Water Resources	An Environment Agency document that sets the strategic direction for long-term regional water resource planning
	Net zero operational carbon emissions	The water sector, through Water UK, has pledged to achieve net zero carbon emissions from its operations by 2030
NEUB	Non-Essential Use (Ban)	A drought order approved by the Secretary of State to restrict specific water uses by businesses
	Non-household	Use by businesses and public bodies such as schools and hospitals

NYAA	Normal Year Annual Average	This is the demand for water expected under normal conditions
Ofwat	Office of Water Services	The economic regulator of the water sector in England and Wales
	Outage	Temporary loss of deployable output
PCC	Per capita consumption	Amount of water a person typically uses every day
RAPID	Regulatory Alliance for the Progression of Infrastructure Development	An organisation formed by Ofwat, Environment Agency and Drinking Water Inspectorate to help accelerate the development of new water infrastructure and design future regulatory frameworks
	Regional groups	The five regional groups outlined in the water resources framework – Water Resources South East, West Country Water Resources, Water Resources East, Water Resources North and Water Resources West.
	Regional reconciliation	The process to understand how each region could support the others' developing plans
	River Restoration	The process of managing rivers to reinstate natural processes

SRO	Strategic Resource Option	Large-scale infrastructure solutions for securing additional water
STPR	Social Time Preference Rate	A method used to put a present value on costs and benefits that occur at a later date
	Source	A named input to a water resource zone where water is abstracted from a well, spring or borehole, or from a river or reservoir
SEA	Strategic Environmental Assessment	Assessment of likely significant effects of certain plans and programmes
	Supply-demand balance	The difference between total water available for use (as supply) and forecast distribution input (as water demand) at any given point in time over the planning period/horizon
	Sustainability Reduction	Reductions in deployable output required to meet statutory and/or environmental requirements
TUB	Temporary Use Ban	Drought management measures imposed by water companies on customers – previously known as hosepipe ban
WFD	Water Framework Directive	Environmental Legislation relating to river basin management and committing all EU member states to achieving good quantitative status to all water bodies and retained as UK law following Brexit

WINEP	Water Industry National Environment Programme	A programme issued to water companies by the EA which outlines what regulators expect companies to include in future investment plans to meet environmental obligations
	Water recycling	A process where wastewater is treated above usual standards to be returned to the environment and then abstracted downstream to process for drinking water
WRMP	Water Resource Management Plan	A plan produced by each water company every five years that follows a statutory process and sets out how they will provide water over the long-term
WRPG	Water Resources Planning Guideline	Published Guidance for the preparation of WRMP and Regional Plans from the Environment Agency, Natural Resources Wales and Ofwat
WRSE	Water Resources in the South East	Partnership of water companies and regulators in South East England working together to make best use of available water resources
WRZ	Water Resource Zone	The largest possible zone in which all resources, including external transfers, can be shared and hence the zones in which all customers experience the same risk of supply failure from a resource shortfall
	Water UK	The trade association for water companies